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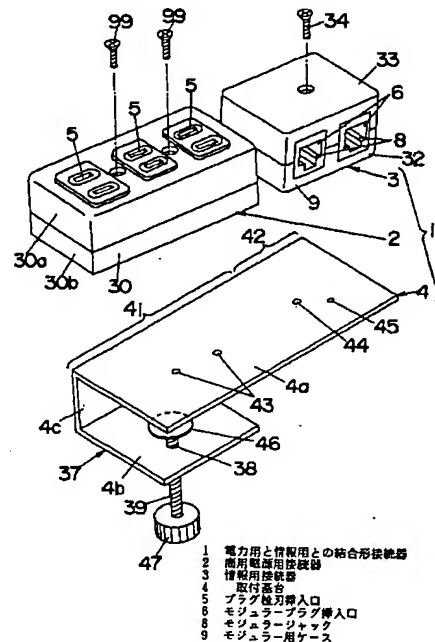
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(54)【発明の名称】 商用電源用と情報用の結合形接続器

(57)【要約】

【課題】 商用電源用と情報用の接続器の移動、固定を効率良く行う。接続器の数量を任意に選択でき、使用者の選択の幅を広げると共に、接続器の機能拡大に対応する。電線の余長処理及び分離処理を容易にする。正確な配線をコンパクトに且つ外観良く行う。

【解決手段】 プラグ栓刃挿入口5を備えた商用電源用接続器2と、モジュラープラグ挿入口6を備えた情報用接続器3と、上記商用電源用接続器2と情報用接続器3の両方が取付けられて、両接続器2、3を対にして移動したり固定したりするための取付基台4とを備えている。



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【特許請求の範囲】

【請求項1】 プラグ栓刃挿入口を備えた商用電源用接続器と、モジュラープラグ挿入口を備えた情報用接続器と、上記商用電源用接続器と情報用接続器の両方が取付けられて、両接続器を対にして移動したり固定したりするための取付基台とを備えていることを特徴とする商用電源用と情報用の結合形接続器。

【請求項2】 プラグ栓刃挿入口を備えた商用電源用接続器と、モジュラープラグ挿入口を備えた情報用接続器と、商用電源用接続器と情報用接続器とを相互に結合する結合手段と、結合手段にて結合された商用電源用接続器又は情報用接続器のいずれか一方が取付けられて、両接続器を対にして移動したり固定したりするための取付基台とを備えていることを特徴とする商用電源用と情報用の結合形接続器。

【請求項3】 情報用接続器が、モジュージャックと、モジュージャックを収納するモジュラー用ケースとから成り、モジュラー用ケースを取付基台又は商用電源用接続器のいずれかに取付けると共に、モジュラー用ケースに対してモジュージャックを着脱自在としたことを特徴とする請求項1又は請求項2記載の商用電源用と情報用の結合形接続器。

【請求項4】 商用電源用接続器の電力用端子部に電源用電線を接続すると共に電源用電線の先端に電源プラグを設け、情報用接続器のモジュラー用端子部に情報用電線を接続すると共に情報用電線の先端に通信用コネクタを設けたことを特徴とする請求項1又は請求項2記載の商用電源用と情報用の結合形接続器。

【請求項5】 商用電源用接続器のプラグ栓刃挿入口が設けられている側の面と、情報用接続器のモジュラープラグ挿入口が設けられている側の面とを略同一面に形成したことを特徴とする請求項1又は請求項2記載の商用電源用と情報用の結合形接続器。

【請求項6】 商用電源用接続器の外形の断面寸法と情報用接続器の外形の断面寸法とを略同一寸法に形成したことを特徴とする請求項1又は請求項2記載の商用電源用と情報用の結合形接続器。

【請求項7】 商用電源用接続器又は情報用接続器の側方に過電流検出器のような制御機能を備えた機能ブロックを配設すると共に、接続器の外形の縦断面寸法と機能ブロックの外形の断面寸法とを略同一寸法に形成したことを特徴とする請求項1又は請求項2記載の商用電源用と情報用の結合形接続器。

【請求項8】 商用電源用接続器の電力用端子部に接続された電源用電線と情報用接続器のモジュラー用端子部に接続された情報用電線とを両接続器の外部において分離して収納するための電線収納用カバーを備えていることを特徴とする請求項1又は請求項2記載の商用電源用と情報用の結合形接続器。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】この発明は、電力用と情報用との結合形接続器に関するものである。

【0002】

【従来の技術】パソコン、FAX、電話等の情報機器やマルチメディア機器は、商用電源用と情報用の両方の接続器が必要である。従来、例えば図26に示すように、ノート型パソコン19に接続される商用電源用接続器2と情報用接続器3とを個別に構成し、これらを離して机18の配線溝20内に設置して使用しているのが一般的である。

【0003】

【発明が解決しようとする課題】ところが、従来のように、商用電源用接続器2と情報用接続器3とが個別に設置、使用されている場合にあっては、デスクレイアウトの変更や機器の増設等で接続器2、3を移動する場合には、個別に設置されされているが故に移動や固定作業の効率が悪くなり、特に接続器の抜き差しを間違え易いという問題がある。しかも、両接続器2、3は離れて設置されるために、配線される電源用電線14及び情報用電線12の余長の処理や、各電線12、14の分離の処理がそれぞれ困難となり、そのうえ両接続器2、3は外観や取付け方法が異なっているために、外観上のまとまりがない上に、種類の異なる接続器を机の配線溝に取付けるのに手間がかかるという問題もあった。

【0004】なお、他の従来例として、例えば特開平8-32495号公報には、図27に示すように、1つのケース16に電力用コネクタ22、通信用コネクタ23を一体に組み込んだ電灯線通信用ケーブル接続器21が知られている。尚図中の24は操作ボタン、25はパイロットランプ、26は通信回路用スイッチである。しかしながら、このように1つのケース16内に商用電源用と情報用とをまとめて組み込んだ構造にあっては、商用電源用と情報用の各接続器の数が既に決まっているために、使用できる接続器の数と種類が限られてしまい、使用者の選択の幅が狭くなり、特に接続器の増設に対応できなくなるという問題があった。

【0005】本発明は、上記従来例に鑑みてなされたもので、商用電源用と情報用の接続器の移動、固定を効率良く行う行うことができ、しかも、接続器の数量を任意に選択でき、使用者の選択の幅を広げると共に、接続器の機能拡大に対応でき、さらに、電線の余長処理及び分離処理を容易にすると共に、正確な配線をコンパクトに且つ外観良く行うことができる電力用と情報用との結合形接続器を提供することを課題とする。

【0006】

【課題を解決するための手段】上記課題を解決するために、請求項1記載の発明は、プラグ栓刃挿入口5を備えた商用電源用接続器2と、モジュラープラグ挿入口6を備えた情報用接続器3と、上記商用電源用接続器2と情

報用接続器3の両方が取付けられて、両接続器2, 3を対にして移動したり固定したりするための取付基台4とを備えていることを特徴としており、このように構成することで、取付基台4は両方の接続器2, 3を対にして移動したり、固定したりできるような機能を有しているため、両接続器2, 3を移動したり、机18等の造営材に固定したりするのを効率良く行うことができ、また、両接続器2, 3は単独でも連結状態でも取付基台4に固定できるので、取付基台4への取付け時などに両接続器2, 3の数量を任意に選択できるようになり、使用者の選択の幅を広げることができると共に、両接続器2, 3を互いに近接させて取付けることができるので、各電線12, 14の余長の処理や両電線12, 14の分離の処理がそれぞれ容易となり、さらに両接続器2, 3の抜き差しを間違えずに正確に行えるようになる。

【0007】また請求項2記載の発明は、プラグ栓刃挿入口5を備えた商用電源用接続器2と、モジュラープラグ挿入口6を備えた情報用接続器3と、商用電源用接続器2と情報用接続器3とを相互に結合する結合手段7と、結合手段7にて結合された商用電源用接続器2又は情報用接続器3のいずれか一方が取付けられて、両接続器2, 3を対にして移動したり固定したりするための取付基台4とを備えていることを特徴としており、このように構成することで、請求項1の場合と同様、両方の接続器2, 3の移動、固定が容易となり、接続器2, 3の数量を任意に選択できると共に、接続器2, 3の機能拡大に対応でき、さらに、電線12, 14の余長処理や分離処理が容易となり、正確な配線をコンパクトに且つ外観良く行うことができる。さらに加えて、結合手段7にて両接続器2, 3同士を結合することで、取付基台4には商用電源用接続器2又は情報用接続器3の一方を取付けるだけで済むようになり、取付け作業が一層はかどる。

【0008】また請求項3記載の発明は、請求項1又は請求項2において、情報用接続器3が、モジュラージャック8と、モジュラージャック8を収納するモジュラー用ケース9とから成り、モジュラー用ケース9を取付基台4又は商用電源用接続器2のいずれかに取付けると共に、モジュラー用ケース9に対してモジュラージャック8を着脱自在とするのが好ましく、このように構成することで、取付基台4にモジュラー用ケース9だけを取付けた後でも、モジュラージャック8の機能の追加が容易にでき、接続器の増設が容易となる。

【0009】また請求項4記載の発明は、請求項1又は請求項2において、商用電源用接続器2の電力用端子部に電源用電線14を接続すると共に電源用電線14の先端に電源プラグ10を設け、情報用接続器3のモジュラー用端子部11に情報用電線12を接続すると共に情報用電線12の先端に通信用コネクタ13を設けるのが好ましく、このように構成することで、商用電源用接続器

2と情報用接続器3とを結合した構造でありながら、電力用と情報用の配線作業が容易となる。

【0010】また請求項5記載の発明は、請求項1又は請求項2において、商用電源用接続器2のプラグ栓刃挿入口5が設けられている側の面2aと、情報用接続器3のモジュラープラグ挿入口6が設けられている側の面3aとを略面一に形成するのが好ましく、このように構成することで、種類の異なる接続器2, 3を並べて取付基台4に取付けた場合でも、連続した外観を呈するようになる。

【0011】また請求項6記載の発明は、請求項1又は請求項2において、商用電源用接続器2の外形の断面寸法と情報用接続器3の外形の断面寸法とを略同一寸法に形成するのが好ましく、このように構成することで、両接続器2, 3の側面2b, 3b同士を合わせるだけで、外観上違和感なく両接続器2, 3を結合できる。また請求項7記載の発明は、請求項1又は請求項2において、商用電源用接続器2又は情報用接続器3の側方に過電流検出器35aのような制御機能を備えた機能ブロック35を配設すると共に、接続器2又は3の外形の縦断面寸法と機能ブロック35の外形の断面寸法とを略同一寸法に形成するのが好ましく、このように構成することで、接続器2又は3と過電流検出器35aのような機能ブロック35とを並べて結合した場合でも、機能ブロック35を違和感なく接続器2又は3に取付け可能となる。

【0012】また請求項8記載の発明は、請求項1又は請求項2において、商用電源用接続器2の電力用端子部に接続された電源用電線14と情報用接続器3のモジュラー用端子部11に接続された情報用電線12とを両接続器2, 3の外部において分離して収納するための電線収納用カバー15を備えているのが好ましく、このように構成することで、電線収納用カバー15により電線12, 14を分離して収納できるようになり、弱電、強電の識別が容易となる。

【0013】

【発明の実施の形態】以下、本発明の実施形態の一例を説明する。電力用と情報用との結合形接続器1は、図1及び図2に示すように、プラグ栓刃挿入口5を備えた商用電源用接続器2と、モジュラープラグ挿入口6を備えた情報用接続器3と、上記両接続器2, 3が取付けられて、両接続器2, 3を対にして移動したり固定したりするための取付基台4とで主体が構成されている。

【0014】商用電源用接続器2は、プラグ栓刃挿入口5に対応して配置される刃受バネ（図示せず）と、刃受バネに電気的に接続される電力用端子部（図示せず）と、これを覆う絶縁材料製の電力用ケース30とを備えている。電力用ケース30は上蓋30aと下蓋30bに分かれ、取付けネジ99で互いに固定されている。この実施形態では、商用電源用接続器2は、3個並列状態で上向きに設置されているが、図11(b)のように横向

きに設置されてもよく、また接続器2の数量に関しては、1個以上であればよく、また設置状態も図1の実施形態には限られないものである。また、商用電源用接続器2のプラグ栓刃挿入口5の種類に関しても、図1のものに限られず、図4に示すような抜け止めタイプのものであってもよい。

【0015】情報用接続器3は、図3に示すように、モジュージャック8と、モジュージャック8を収納する絶縁材料製のモジュラー用ケース9とから成る。モジュージャック8は、モジュラープラグ挿入口6とこれに対応して配置されたモジュラー用端子部11と、モジュラー用端子部11に情報用電線12を接続するための接続手段36とを備えている。モジュラー用ケース9は、取付基台4に取付けられるボディ部32と、ボディ部32に取付けられるカバー部33と、取付けネジ34とから成る。ボディ部32とカバー部33には、モジュラープラグ挿入口6に対応する前面開口部31a、31bと、情報用電線12が挿入される後面開口部31cとが形成されている。そして、カバー部33下面の複数箇所に凹設した凹部99にボディ部32表面の複数箇所に突設させた凸部98を嵌合させた状態で、取付けネジ34(図1)をカバー部33のネジ孔96からボディ部32のネジ孔97に螺合させることで、モジュラー用ケース9が組立てられる。このモジュラー用ケース9に対して上記モジュージャック8が着脱自在となっており、情報用接続器3を使用しない時には、モジュージャック8を収納しないモジュラー用ケース9を取付基台4に取付けており、また情報用接続器3を使用する時には、モジュラー用ケース9のカバー部33を取外してモジュージャック8を収納してカバー部33を取付けることで、情報用接続器3を使用できるようになっている。尚、本実施形態では、情報用接続器3は2個並列状態で横向きに設置されているが、図11(a)のように上向きに設置されてもよく、また接続器3の数量に関しては、1個以上であればよく、また設置状態も図1の実施形態には限られないものである。

【0016】ここで、上記商用電源用接続器2の電力用端子部には、図4に示すように、電源用電線14が接続され、この電源用電線14の先端には電源プラグ10が設けられている。また、情報用接続器3のモジュラー用端子部11には情報用電線12が接続され、この情報用電線12の先端に通信用コネクタ13が設けられている。図4の実施形態では、商用電源用接続器2から1本の共通の電源用電線14が引き出され、その先端に電源プラグ10が接続されており、情報用接続器3からはモジュージャック8ごとに複数の情報用電線12(この実施形態では2本)が引き出され、各情報用電線12の先端に通信用コネクタ13(モジュラープラグ、モジュージャック8等の各種コネクタ)が接続されている。

【0017】一方、取付基台4は、図1に示すように、

横方向に幅広の上横片4aと、横方向に幅狭の下横片4bと、これらを連結する連結片4cとが一体形成された取付金具37と、下横片4bのネジ孔38に螺合した締付けネジ39とで構成されている。幅広の上横片4aは、商用電源用接続器2が取付けられる電力用取付け部41と、情報用接続器3が取付けられる情報用取付け部42とが一体に形成されている。電力用取付け部41に複数の取付け用のネジ孔43が形成されており、情報用取付け部42には取付け用のネジ孔44と回り止め用孔部45とが形成されており、情報用接続器3の底面に突設した突起(図示せず)を回り止め用孔部45に挿入した状態で、情報用接続器3をネジ止めできるようになっている。そして、図2(b)のように取付金具37の上横片4aと締付けネジ39の上端の押圧片46とで机18の縁部を上下から挟み、締付けネジ39のつまみ部47を回転させて締め付けることにより、取付基台4を机に締付け固定できるようになっている。

【0018】なお、図2(c)のように上横片4aと下横片4bの間に中横片4dを追加して設け、中横片4dと締付けネジ39の上端の押圧片46とで机18の縁部を挟持するようにしてもよい。この場合、両接続器2, 3を机18から浮かせた状態で取付け可能となる。しかし、商用電源用接続器2と情報用接続器3を取付基台4に取付けるにあたって、取付基台4は両方の接続器2, 3を対にして移動したり、固定したりできるような機能を有しているので、デスクレイアウトの変更や機器の増設等で場所を移動する場合には、取付基台4を移動したり、固定したりすることで、両接続器2, 3を一緒に取外したり、固定ができるので、両接続器2, 3の移動及び固定を効率良く行うことができる。また、両接続器2, 3は単独でも連結状態でも取付基台4に固定できるので、使用者の選択の幅を広げることができると共に、両接続器2, 3は外観だけでなく取付基台4への取付け方法も略共通しているので、外観が向上するだけでなく、取付基台4への取付け作業も容易となる。しかも、両接続器2, 3は互いに近接しているので、各電線12, 14は略同じ場所から出てくるようになり、これにより各電線12, 14の余長が略同じとなり、余長の処理が容易になると共に、両電線12, 14の分離の処理も容易となり、両接続器2, 3の抜き差しを間違えずに正確に且つ外観良く行うことができる。

【0019】また、図3に示すモジュラー用ケース9内にモジュージャック8を着脱自在としたから、初期の設置段階でモジュージャック8を設置せず、モジュラー用ケース9のみを取付基台4に取付けるようにし、その後、モジュージャック8を追加して設けることが可能となるので、商用電源用のみとして使用したり、商用電源用と情報用として使用したりでき、情報用接続器3の増設に十分に対応でき、使用者の選択の幅をより広げることができる。また取付基台4の上横片4aを横長に

形成するだけで、接続器の数や種類を容易に変更できると共に、取付基台4に取付ける接続器2, 3は一般に市販されている屋内配線器具との互換性も有しているの、他商品の増設にも容易に対応できるという利点もある。

【0020】図6～図9は他の実施形態を示している。この実施形態では、商用電源用接続器2と情報用接続器3とを相互に結合する結合手段7と、結合手段7にて結合された商用電源用接続器2又は情報用接続器3のいずれか一方が取付けられて、両接続器2, 3を対にして移動したり固定したりするための取付基台4とを備えている。商用電源用接続器2及び情報用接続器3の基本構造は前記実施形態と同様である。商用電源用接続器2の背面には、図7に示すように、挿入口50が形成されていると共に、電源用電線の配線スペース200が設けられており、また情報用接続器3の背面には、情報用電線の配線スペース201が設けられている。また、取付基台4は、図8に示すように、上横片4aと下横片4bと連結片4cとを備えたコ字形の取付金具37と、下横片4bのネジ孔38に螺合した締付けネジ39とで構成されている。また下横片4bの両端部にはファスナー300がそれぞれ取付けられており、電源用電線14と情報用電線12とを分離したり、電線の余長部分を束ねた状態で保持できるようになっている。なお、ファスナー300の個数については2個に限られるものではない。

【0021】しかして、接続器2, 3を机18に取付けるにあたっては、図6のように上横片4aを電力用ケース30の背面に開口した挿入口50に挿入した状態で、商用電源用接続器2の底面2cと締付けネジ39の上端の押圧片46(図8)とで机18の縁部を上下から挟んでつまみ部47(図8)を回転させて締め付けることにより、取付基台4を机18に締付け固定できると同時に商用電源用接続器2を机18に固定できるようになる。

【0022】ここで、上記取付金具37は商用電源用接続器2のみを固定するものであり、情報用接続器3は商用電源用接続器2に結合手段7を用いて結合されている。結合手段7の一例を図9に示す。商用電源用接続器2の底面2cの情報用接続器3側の端部には略T字状の凹所51aが形成され、情報用接続器3の底面3cの商用電源用接続器2側の端部には上記凹所51aと同じ深さの略T字状の凹所51bが形成されている。また、両接続器2, 3を連結するための連結具52は略H形に形成され、一端部52aを凹所51a内に、他端部52bを凹所51bにそれぞれ嵌合させ、皿状タッピングネジ53で連結具52の両端部をネジ53でそれぞれ固定することによって、両接続器2, 3を連結具52を介してワンタッチで結合できるようになっている。また連結具52の両端部52a, 52bは凹所51a, 51bから外れないように嵌合できる形状をしているので、1つの連結具52を用いて両接続器2, 3同士を強固に結合で

きるようになる。また、多数の接続器を相互に連結する場合も、複数の連結具52を用いて簡単に連結できるようになり、接続器の増設にも容易に対応できるようになる。なお取付金具37は机18の縁の特定の場所に限定されるのではなく、どの位置にも取付けることができるものである。

【0023】また、上記結合手段7は図9の構造に限定されるのではなく、例えば図10に示すように、商用電源用接続器2の底面2cの両端部に略し字状の凹所51a'をそれぞれ形成し、底面2cの複数箇所(例えば3箇所)に例えばマグネット54を取付け、底面2cの1箇所に電源用電線の配線スペース200を設け、一方、情報用接続器3の底面3cに上記凹所51a'と同じ深さの凹所51b'を形成し、底面3cの1箇所に上記マグネット54と同じ高さのマグネット54を取付けるようにしてもよい。図中の51cは嵌合部である。そして、T字形の連結具52'を略し字形の凹所51a', 51b'内に嵌合させると共に、連結具52'に突設させた突起部52cを嵌合部51cに嵌合させた状態で、連結具52'の両端部を両接続器2, 3に対してネジ止めすることにより、1つの連結具52'を用いて両接続器2, 3を結合できると共に、連結具52'の突起部52cが嵌合部51cに嵌合することで、より強固に結合できるようになる。また、取付金具37(図9)にて両接続器2, 3を机に取付ける際に、上記マグネット54を金属製の机に磁着させることで、両接続器2, 3の仮固定ができ、取付け性が一層良くなる。

【0024】なお、上記マグネット54に代えて、マグネット54が設けられる部分を商用電源用接続器2の底面2c及び情報用接続器3の底面3cよりもそれぞれ略同じ高さで突出させると共に、これらの突出部分をゴム等の摩擦の大きい材料で構成するようにしてもよい。この場合、机上に設置したときにゴム等の摩擦抵抗が大きい材料からなる突出部分が滑り止めの機能を果たすようになり、安定した設置状態が得られるようになる。なお、上記突出部分をゴム以外に例えば接続器2, 3のケースと同じ材質で形成してもよいのは勿論のことである。

【0025】図11(a)は商用電源用接続器2のプラグ栓刃挿入口5が設けられている側の面2aと、情報用接続器3のモジュラープラグ挿入口6が設けられている側の面3aとを略面一に形成した場合を示している。このように両接続器2, 3の上面2a, 3aを面一にすることで、両接続器2, 3を並べて取付基台4に取付けた場合でも、連続した外観を呈するようになり、異なる種類の接続器を違和感なく、取付けることができる。また図11(b)のように前面2a', 3a'にプラグ栓刃挿入口5、モジュラープラグ挿入口6が設けられる場合は、前面2a', 3a'を面一に形成すればよい。

【0026】図12は、商用電源用接続器2の外形の断

面寸法と情報用接続器3の外形の断面寸法とを略同一寸法に形成した場合を示している。このように同一寸法形状とすることで、両接続器2、3の側面2b、3b同士を合わせるだけで、外観上一体となった結合形接続器1が得られる。また、両接続器2、3は外形の断面寸法も同じに形成されているので、つまり、両接続器2、3の上面同士、背面同士、前面同士がそれぞれ面一となるように同じ断面寸法で形成されているので、両接続器2、3を外観上違和感なく連結できるようになる。

【0027】図13及び図14は、商用電源用接続器2（情報用接続器3であってもよい。）の側方に過電流検出器35aのような制御機能を備えた機能ブロック35を配設すると共に、接続器2の外形の縦断面寸法と機能ブロック35の外形の断面寸法とを略同一寸法に形成した場合を示している。この過電流検出器35aは、CT等の電流検出用部品60と、この電流検出用部品60からの検出信号が入力されるマイクロコンピュータ等で実現される制御回路61と、過電流が検出されたときにオフに切り替わって接続器2の内器（コンセント）300への電力供給を停止させるためのスイッチ62とを備えている。この実施形態では機能ブロック35の大きさは、接続器2の一単位と同じ大きさに形成されている。なお、上記機能ブロック35を接続器2の内器（コンセント）の取付け単位と同じ大きさに形成してもよい。また機能ブロック35は、接続器2のケース63と一体形成されたケース部64内に収納されており、ケース部64の開口部65が目隠し蓋66で覆われている。機能ブロック35を取付けるにあたっては、目隠し蓋66を取外して、ケース部内に機能ブロック35を収納して、目隠し蓋66をビス67で固定することによって、図14（c）のように機能ブロック35と接続器2とを一体化できるようになっている。従って、機能ブロック35を商用電源用接続器2又は情報用接続器3と並べて或いは一体にして使用できると共に、両接続器2、3を設置した後でも過電流検出器35a等の付加機能の追加が容易にできるという利点がある。

【0028】尚、機能ブロック35のケース部64と接続器2のケース63とを別体で構成し、機能ブロック35と接続器2とを並べて設置するようにしてもよいものである。図15（a）は、商用電源用接続器2の電力用端子部に接続された電源用電線14と情報用接続器3のモジュラー用端子部11に接続された情報用電線12とを両接続器2、3の外部において分離して収納するための電線収納用カバー15を備えている場合を示している。図15（a）に示す実施形態では、電線収納用カバー15aは、底面片70と、横長の開口部75、76がそれぞれ形成された両側面片71、72と、端面片73とで構成され、両側面片71、72の端部が両接続器2、3の外側面にそれぞれビス74にて固定されている。電線収納用カバー15は両接続器2、3に対して後

付け可能となっている。一方の開口部75から電源用電線14又は情報用電線12が外部に引出され、他方の開口部76から情報用電線12又は電源用電線14が電源用電線14とは反対方向に引き出されることにより、両方の電線12、35が分離されている。

【0029】なお、図15（b）のように電線収納用カバー15内に分離壁77を設け、電源用電線14と情報用電線12とを分離壁77にて分離するようにしてもよい。また分離壁77と両側面片71、72には、それぞれ複数の凹状の開口部78、79を設け、上方から配線作業が可能となる。さらに、両方の電線を反対方向だけでなく、同一方向にも引出し可能となっている。このように分離壁77にて電線12、14を分離したことで、弱電、強電の識別が容易にできるという利点がある。また、配線を実際に行うために、図16のように電線収納用カバー15内に張力止め部材80を設け、これをビス81で電線収納用カバー15の底面片70に固定するようにしてもよく、この場合、張力止め部材80にて電線12、14を十分に保護できるようになる。

【0030】図17は、取付基台4に、机18への固定機能に加えて、通線機能、接続器スライド機能を持たせた場合を示している。通線機能は、両接続器2、3が取付けられる取付金具37の上部に、上面及び側面にそれぞれ開口した中空ボックス85を設け、中空ボックス85の下端を取付金具37の連結片4cに固定してある。一方、接続器2、3の底面に突設したフック86を中空ボックス85の上端縁85aにそれぞれ係止させることによって接続器2、3を中空ボックス85に対して図17の矢印Hで示す方向にスライド自在に接続されている。しかして、取付金具37にて机18上に両接続器2、3を設置した場合、机18上で簡単に両接続器2、3を移動できるようになるので、取付基台4を机18からいちいち取外したりする必要がなく、使い勝手が良くなる。また、接続器2、3は中空ボックス85に対してスライド自在に接続されていると共に、ボックス85内に接続器2、3から引き出された電線12、14が通線されているので、スライド時にも電線12、14がもつれる心配がなく、スライド操作をスムーズに行うことができるようになる。なお、通線機能と接続器スライド機能の両方を設けた場合を説明したが、勿論いずれか一方の機能を有するものであってもよい。

【0031】図18（a）は、商用電源用接続器2（情報用接続器3も同様）に小物入れ90を取付けた場合を示しており、図18（b）に示すように、ネームプレート91を取付けた場合を示しており、この場合、小物入れ90やネームプレート91を接続器と並べて、或いは一体に使用できるようになる。また、接続器2の側方に小物入れ90を後付けで取付けることができるので、接続器2の初期の設置時に小物入れ90が邪魔になることがない。またネームプレート91には、例えば該当する

接続器2に接続されているパソコンの所有者の名前を書いておくことで、配線の切り換え等の作業がし易くなる。

【0032】図19は、商用電源用接続器2（或いは情報用接続器3も同様）に平形電源ケーブル92を用いて変換器96を接続する場合を示している。商用電源用接続器2の電源用端子部に接続された平形電源ケーブル92の端部には変換器内器93が接続され、電源プラグ10に接続された丸形の電源ケーブル94の端部には変換器内器95が接続され、両方の変換器内器93、95を変換器96の下蓋96aと上蓋96bの間に収納して、ビス97で固定することにより、平形電源ケーブル92を一般的な丸形の電源ケーブル94に変換できるようになっている。このように、接続器2の外部に引き出される電線ケーブルとして平形電源ケーブル92を用いることで、例えば図20に示すように、机18間の狭い隙間部分に容易に通すことができると共に、取付け性及び外観性に優れたものとなる。また変換器96によって必要に応じて丸形の電線ケーブルへの変換を容易に行うことができるものとなる。図21は商用電源用接続器2に後から別の商用電源用接続器2を追加した場合を示している。

【0033】図22は電源プラグ10が接続されている第1の接続器A（例えば商用電源用接続器2）に、プラグが接続されていない第2の接続器B（例えば商用電源用接続器2又は情報用接続器3）を電気的及び機械的に接続する場合の一例を示している。第2の接続器Bの側面中央から電気接続部となる凸状の差込部100が突設され、その両側には一対の係止爪101が突設され、一方、電源プラグ10付きの第1の接続器Aの側面中央には電気接続部となる凹状の被差込部102が形成され、その両側には上記係止爪101に係合する係合孔103（開口又はロックアウト部）が設けられており、差込部100を被差込部102に差し込んで係止爪101に係合孔103に係合させることで、両接続器2、3A、Bを電気的、及び機械的に接続できるようになっている。しかも、商用電源用接続器2同士の接続、或いは商用電源用接続器2と情報用接続器3の接続、或いは情報用接続器3同士の接続のいずれにおいても、接続器同士の電気的結合と機械的結合とをワンタッチで行うことができるようになる。尚、第2の接続器Bを接続しないときには上記被差込部102に、係止爪105付き塞ぎプレート104を装着することで、ゴミや埃の侵入を防止することができる。

【0034】図23は、商用電源用接続器2や情報用接続器3を開口部110a付きカバー110で覆った場合を示している。このカバー110は例えば接続器の上面と前後面をそれぞれ覆うことができる断面逆U字状に形成されている。このカバー110によって、接続器同士の連結状態が多少ずれている場合でも、そのずれを簡単

に補正することができると共に、カバー110によって外観がよりすっきりしたものとなる。

【0035】図24は、取付金具37の上横片4aを連結片4cに対して上下方向に回転自在に連結する回転連結機構115を設けた場合を示している。この回転連結機構にて取付金具37を回転させることで、接続器2、3の取付け角度が代わり、これによりプラグ等の挿入を容易に行えるようになり、使用者は操作しやすくなる。尚、複数単位の接続器2（又は3）がある場合、一単位の接続器のみを回転できるようにしてもよい。また図25（b）のように商用電源用の内器120（或いは情報用の内器121）の全て或いは一部をケース6内に回転自在に取付けられるようにしてもよいものである。

【0036】なお、前記各実施形態では、机18に結合形接続器1を取付ける場合を説明したが、必ずしもこれに限定されるものではなく、机以外の他の造営材にも取付け可能であるのは勿論のことである。

【0037】

【発明の効果】以上説明したように、本発明のうち請求項1記載の発明は、プラグ栓刃挿入口を備えた商用電源用接続器と、モジュラープラグ挿入口を備えた情報用接続器と、上記商用電源用接続器と情報用接続器の両方が取付けられて、両接続器を対にして移動したり固定したりするための取付基台とを備えているから、商用電源用接続器と情報用接続器とを取付基台に取付けるにあたって、取付基台は両方の接続器を対にして移動したり、固定したりできるような機能を有しているため、デスクレイアウトの変更や機器の増設等で場所を移動する場合には、取付基台の移動及び固定を効率良く行うことができる。また、両接続器は単独でも連結状態でも取付基台に固定できるので、両接続器の数量を任意に選択できるので、使用者の選択の幅を広げることができると共に、両接続器を互いに近接させて取付けることができるので、各電線は略同じ場所から出てくるようになり、これにより各電線の余長が略同じとなり、余長の処理や電線の分離の処理がそれぞれ容易となり、そのうえ、両接続器の抜き差しを間違えずに正確に行うことができる。つまり、余長部分等を奇麗に整理して、正確な配線をコンパクトに且つ外観良く行うことができるものである。

【0038】また請求項2記載の発明は、プラグ栓刃挿入口を備えた商用電源用接続器と、モジュラープラグ挿入口を備えた情報用接続器と、商用電源用接続器と情報用接続器とを相互に結合する結合手段と、結合手段にて結合された商用電源用接続器又は情報用接続器のいずれか一方が取付けられて、両接続器を対にして移動したり固定したりするための取付基台とを備えているから、請求項1記載の効果と同様、商用電源用と情報用の接続器の移動、固定を容易に行うことができ、しかも、接続器の数量を任意に選択でき、使用者の選択の幅を広げると共に、接続器の機能拡大に対応でき、さらに、電線の余

長処理及び分離処理を容易にすると共に、正確な配線をコンパクトに且つ外観良く行うことができる。さらに加えて、結合手段にて両接続器同士を結合することによって、取付基台には商用電源用接続器又は情報用接続器のいずれか一方を取付けるだけで済み、取付け作業性が一層向上する。

【0039】また請求項3記載の発明は、請求項1又は請求項2記載の効果に加えて、情報用接続器が、モジュージャックと、モジュージャックを収納するモジュラー用ケースとから成り、モジュラー用ケースを取付基台又は商用電源用接続器のいずれかに取付けると共に、モジュラー用ケースに対してモジュージャックを着脱自在としたから、取付基台にモジュラー用ケースだけを取付けた後でも、モジュージャックの機能の追加が容易にでき、使用者の選択の幅をより広げることができる。例えば初期の設置段階でモジュージャックを設置せず、モジュラー用ケースのみを取付基台に取付けるようにし、その後、モジュージャックを追加して設けることが可能となるので、情報用接続器の増設に十分に対応できるようになり、また、商用電源用のみとして使用したり、商用電源用と情報用として使用したりでき、さらに情報用接続器の増設に十分に対応できるようになる。

【0040】また請求項4記載の発明は、請求項1又は請求項2記載の効果に加えて、商用電源用接続器の電力用端子部に電源用電線を接続すると共に電源用電線の先端に電源プラグを設け、情報用接続器のモジュラー用端子部に情報用電線を接続すると共に情報用電線の先端に通信用コネクタを設けたから、商用電源用接続器と情報用接続器とを結合した構造でありながら、電力用と情報用の配線作業が容易となる。

【0041】また請求項5記載の発明は、請求項1又は請求項2記載の効果に加えて、商用電源用接続器のプラグ栓刃挿入口が設けられている側の面と、情報用接続器のモジュラープラグ挿入口が設けられている側の面とを略面一に形成したから、種類の異なる接続器を並べて取付基台に取付けた場合でも、連続した外観を呈するようになり、よりすっきりした外観が得られる。

【0042】また請求項6記載の発明は、請求項1又は請求項2記載の効果に加えて、商用電源用接続器の外形の断面寸法と情報用接続器の外形の断面寸法とを略同一寸法に形成したから、両接続器の側面同士を合わせるだけで、外観上一体となった結合形接続器が得られる。つまり、断面寸法が同一であるので、両接続器の上面同士、背面同士、前面同士がそれぞれ面一となり、両接続器間の一体感が得られる。

【0043】また請求項7記載の発明は、請求項1又は請求項2記載の効果に加えて、商用電源用接続器又は情報用接続器の側方に過電流検出器のような制御機能を備えた機能ブロックを配設すると共に、接続器の外形の縦

断面寸法と機能ブロックの外形の断面寸法とを略同一寸法に形成したから、接続器と過電流検出器のような機能ブロックとを並べて結合した場合でも、両者が同じ断面寸法で形成されているので、機能ブロックを違和感なく接続器に取付け可能となる。

【0044】また請求項8記載の発明は、請求項1又は請求項2記載の効果に加えて、商用電源用接続器の電力用端子部に接続された電源用電線と情報用接続器のモジュラー用端子部に接続された情報用電線とを両接続器の外部において分離して収納するための電線収納用カバーを備えているから、電線収納用カバーにより電線を分離して収納できるようになり、弱電、強電の識別が容易となり、配線作業を間違い無くスムーズに行うことができる。

【図面の簡単な説明】

【図1】本発明の実施形態の一例を示す分解斜視図である。

【図2】(a)は同上の結合形接続器の斜視図、(b)は結合形接続器を机等の造営材に取付けた状態の側面図、(c)は他の実施形態の側面図である。

【図3】同上の情報用接続器の分解斜視図である。

【図4】同上の電源用電線と情報用電線の説明図である。

【図5】同上の情報用接続器の斜視図である。

【図6】他の実施形態の説明図である。

【図7】図6の接続器の背面図である。

【図8】図6の取付金具の斜視図である。

【図9】更に他の実施形態の説明図である。

【図10】(a)(b)は更に他の実施形態の説明図である。

【図11】(a)(b)は更に他の実施形態の説明図である。

【図12】更に他の実施形態の説明図である。

【図13】更に他の実施形態を示す回路図である。

【図14】(a)～(c)は更に他の実施形態の説明図である。

【図15】(a)(b)は更に他の実施形態の説明図である。

【図16】更に他の実施形態の説明図である。

【図17】(a)(b)は更に他の実施形態の説明図である。

【図18】(a)(b)は更に他の実施形態の説明図である。

【図19】更に他の実施形態の説明図である。

【図20】図19の具体例の説明図である。

【図21】図19の配線状態の説明図である。

【図22】更に他の実施形態の説明図である。

【図23】更に他の実施形態の説明図である。

【図24】更に他の実施形態の説明図である。

【図25】(a)(b)は更に他の実施形態の説明図である。

ある。

【図26】従来例の説明図である。

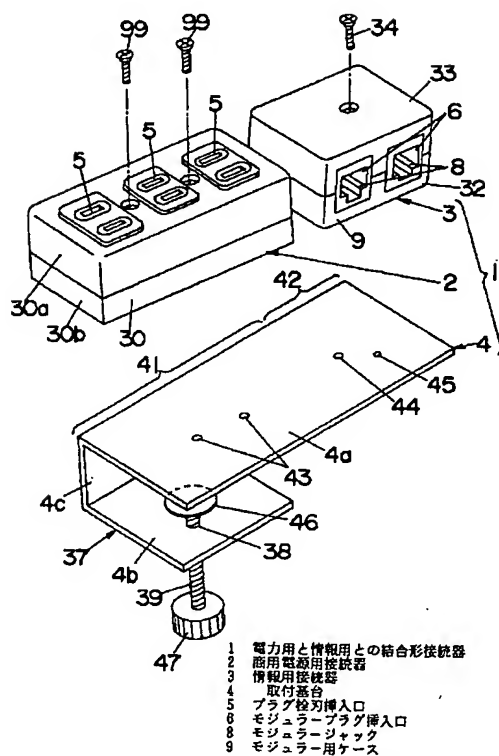
【図27】他の従来例の説明図である。

【符号の説明】

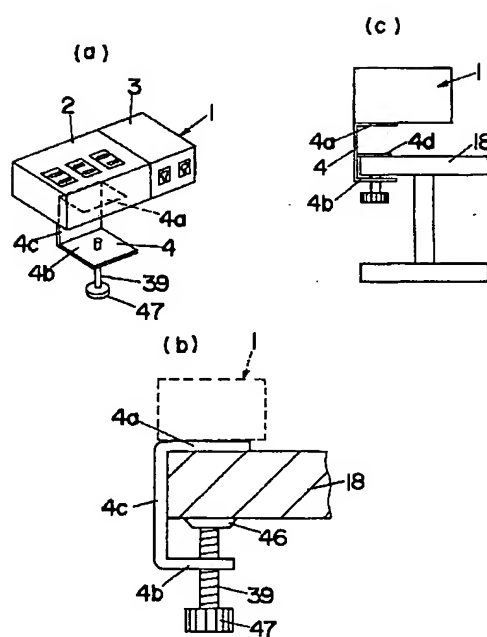
- 1 結合形接続器
- 2 商用電源用接続器
- 3 情報用接続器
- 4 取付基台
- 5 プラグ栓刃挿入口
- 6 モジュラープラグ挿入口
- 7 結合手段

- 8 モジュラージャック
- 9 モジュラー用ケース
- 10 電源プラグ
- 11 モジュラー用端子部
- 12 情報用電線
- 13 通信用コネクタ
- 14 電源用電線
- 15 電線収納用カバー
- 35 機能ブロック
- 35a 過電流検出器

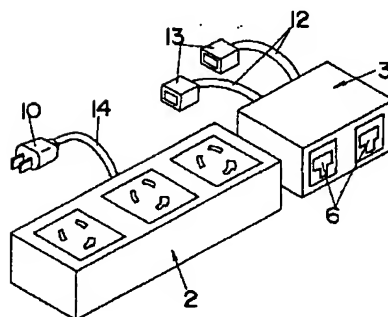
【図1】



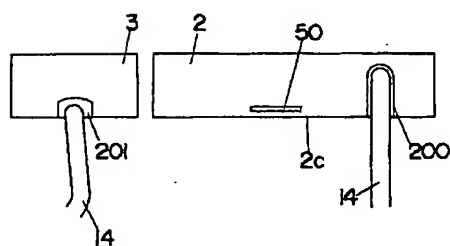
【図2】



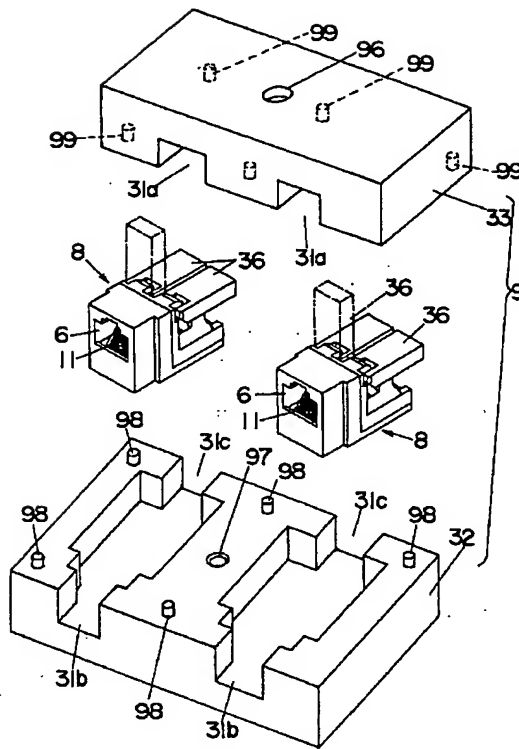
【図4】



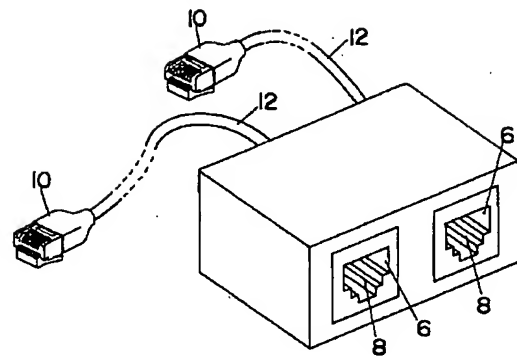
【図7】



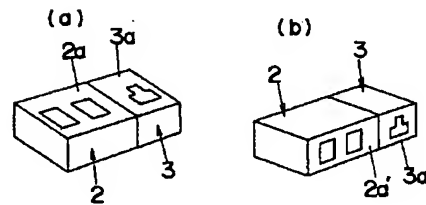
【図3】



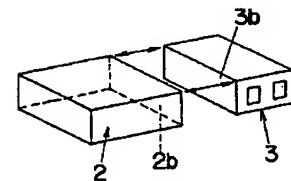
【図5】



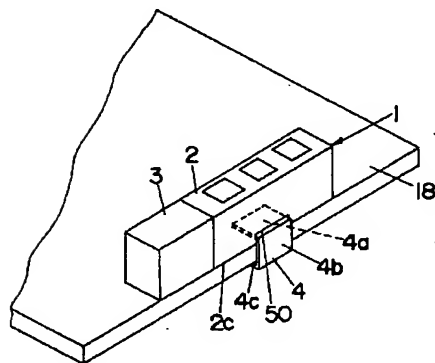
【図11】



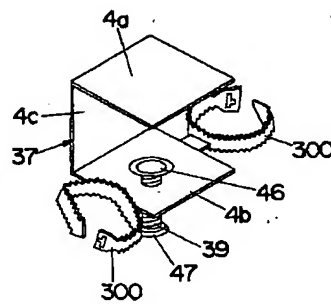
【図12】



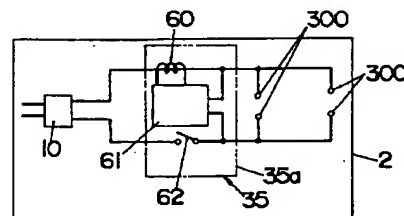
【図6】



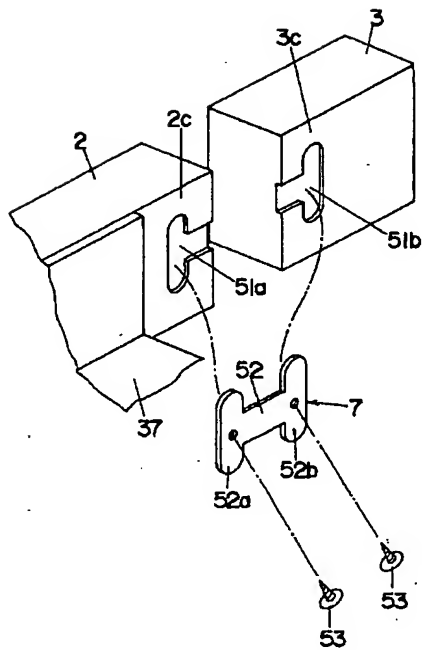
【図8】



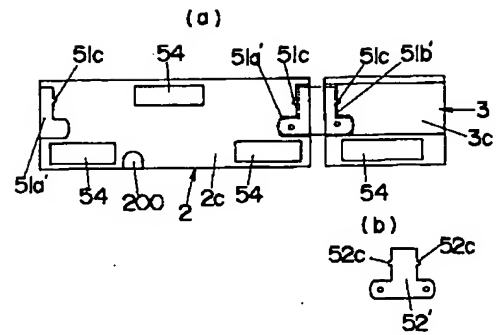
【図13】



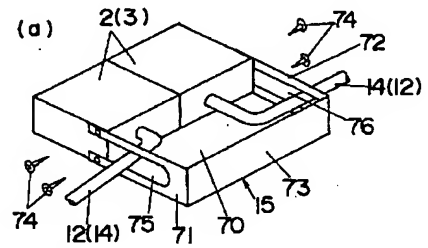
【図9】



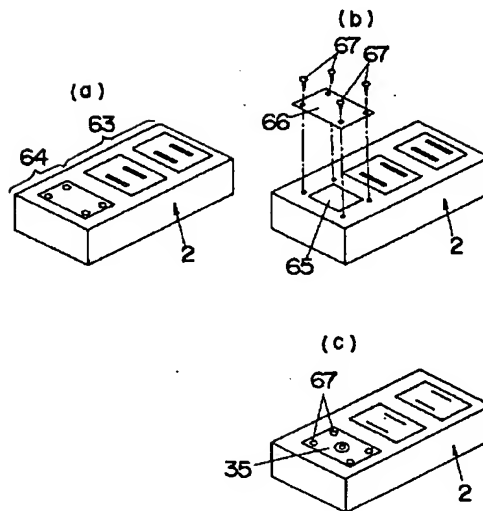
【図10】



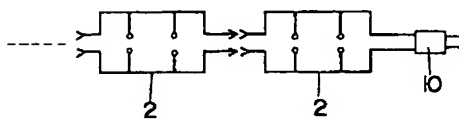
【図15】



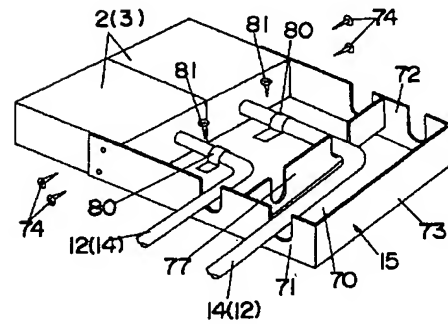
【図14】



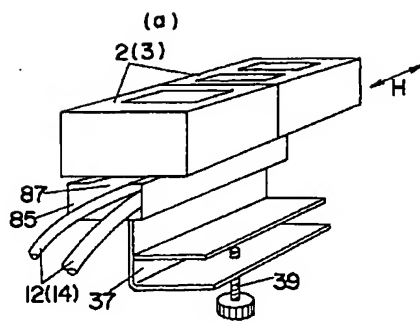
【図21】



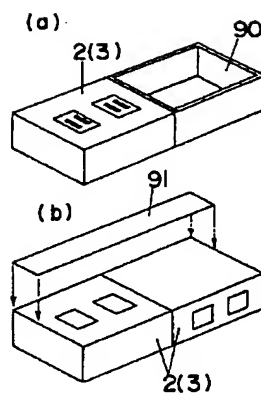
【図16】



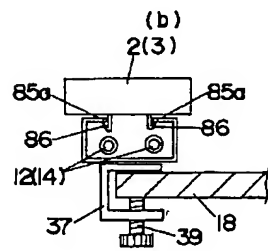
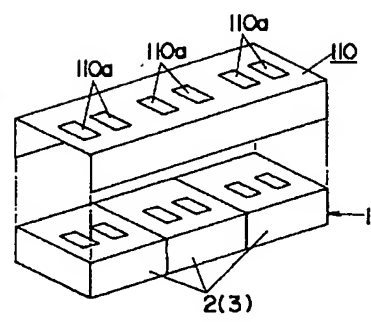
【図17】



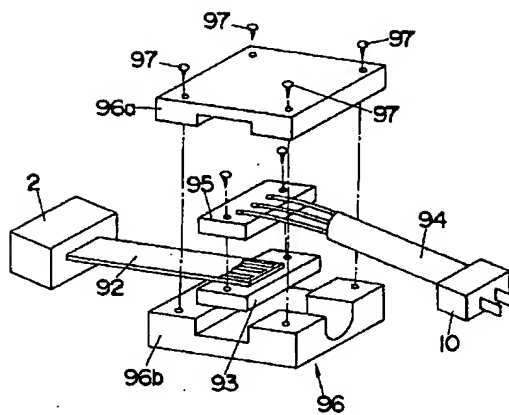
【図18】



【図23】

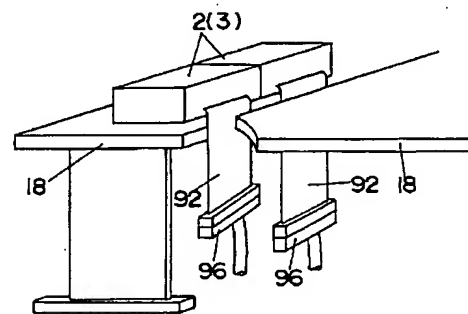


【図19】

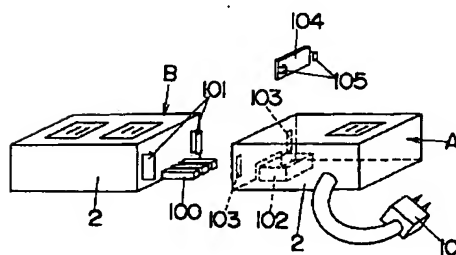
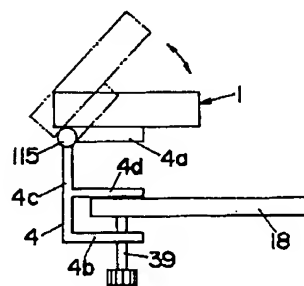


【図22】

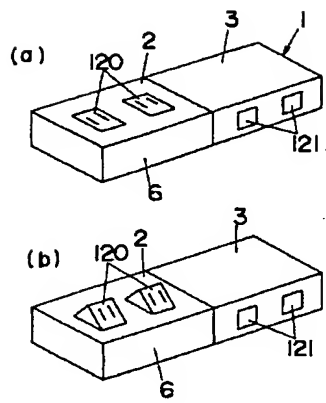
【図20】



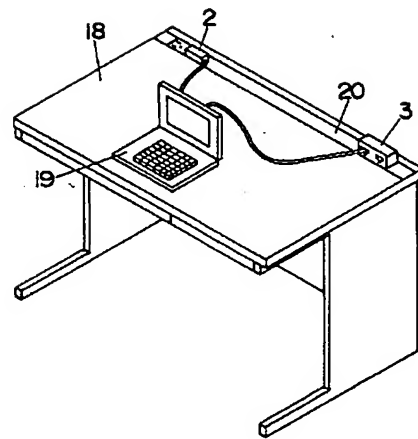
【図24】



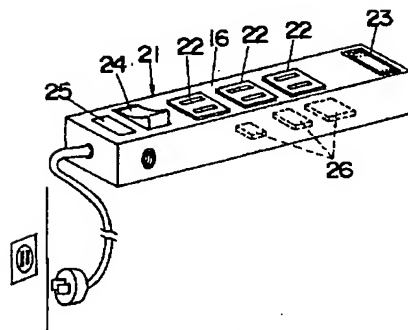
【図25】



【図26】



【図27】



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CLAIMS

[Claim(s)]

[Claim 1] The joint form connector the object for source power supplies, and for information characterized by having attached both the connector for source power supplies equipped with plug plug blade insertion opening, the connector for information equipped with modular plug insertion opening, and the above-mentioned connector for source power supplies and the connector for information, and having the attachment pedestal for making both connectors into a pair, and moving them, or fixing.

[Claim 2] The joint form connector the object for source power supplies, and for information characterized by for either the connector for source power supplies combined in the coupling means which combines the connector for source power supplies equipped with plug plug blade insertion opening, the connector for information equipped with modular plug insertion opening, and the connector for source power supplies and the connector for information mutually, and the coupling means, or the connector for information to have been attached, and to have an attachment pedestal for making both connectors into a pair, and moving them, or fixing.

[Claim 3] The joint form connector according to claim 1 or 2 the object for source power supplies, and for information characterized by enabling attachment and detachment of a modular jack to the case for modular one while the connector for information consisted of the modular jack and the case for modular one which contains a modular jack and attached the case for modular one in either the attachment pedestal or the connector for source power supplies.

[Claim 4] The joint form connector according to claim 1 or 2 the object for source power supplies, and for information characterized by having prepared the plug at the tip of the electric wire for power sources while connecting the electric wire for power sources to the terminal area for power of the connector for source power supplies, and preparing the connector for a communication link at the tip of the electric wire for information while connecting the electric wire for information to the terminal area for modular one of the connector for information.

[Claim 5] The joint form connector according to claim 1 or 2 the object for source power supplies, and for information characterized by forming in abbreviation flush the near field in which plug plug blade insertion opening of the connector for source power supplies is prepared, and the near field in which modular plug insertion opening of the connector for information is prepared.

[Claim 6] The joint form connector according to claim 1 or 2 the object for source power supplies, and for information characterized by forming the cross-section dimension of the appearance of the connector for source power supplies, and the cross-section dimension of the appearance of the connector for information in an abbreviation same dimension.

[Claim 7] The joint form connector according to claim 1 or 2 the object for source power supplies, and for information characterized by forming the longitudinal-section dimension of the appearance of a connector, and the cross-section dimension of the appearance of functional block in an abbreviation same dimension while arranging functional block equipped with a control function like an overcurrent detector in the side of the connector for source power supplies, or the connector for information.

[Claim 8] The joint form connector according to claim 1 or 2 the object for source power supplies, and for information characterized by having covering for electric-wire receipt for separating and containing the electric wire for information connected with the electric wire for power sources connected to the terminal area for power of the connector for source power supplies at the terminal area for modular one of the connector for information in the exterior of both connectors.

[Translation done.]

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3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the joint form connector the object for power, and for information.

[0002]

[Description of the Prior Art] The connector of both the object for source power supplies and for information is required for information machines and equipment and multimedia devices, such as a personal computer, FAX, and a telephone. It is common to constitute the connector 2 for source power supplies and the connector 3 for information which are connected to a notebook sized personal computer 19 according to an individual, to detach these, and to use it, installing in the wiring gutter 20 of a desk 18 so that it may be shown in the former, for example, drawing 26.

[0003]

[Problem(s) to be Solved by the Invention] However, if it is like before when using it according to the individual, installing the connector 2 for source power supplies, and the connector 3 for information, in moving connectors 2 and 3 by modification of a desk layout, extension of a device, etc., although installed and carried out according to the individual therefore, the effectiveness of migration or immobilization worsens, and there is a problem of being easy to mistake especially extraction and insertion of a connector. And processing of the extra length of the electric wire 14 for power sources wired since both the connectors 2 and 3 separate and are installed, and the electric wire 12 for information. Processing of each electric wire 12 and separation of 14 became respectively difficult, and moreover, since the appearance differed from the method of cling, both the connectors 2 and 3 also had the problem that attaching in the wiring gutter of a desk the connector with which an exterior settlement turns up and classes differ took time and effort.

[0004] In addition, as other conventional examples, as shown in drawing 27, the cable splicing machine 21 for an electric light line communication link which included the connector 22 for power and the connector 23 for a communication link in one case 16 at one is known by JP, 8-32495, A. As for a manual operation button and 25, 24 in **** is [a pilot lamp and 26] the switches for communication circuits. However, if it was in the structure which incorporated the object for source power supplies, and the object for information collectively in one case 16 in this way, since the number of each connectors the object for source power supplies and for information was already decided, the number and class of connector which can be used will be restricted, the width of face of selection of a user became narrow, and there was a problem of it becoming impossible to correspond to especially extension of a connector.

[0005] this invention was made in view of the above-mentioned conventional example, and performs efficiently migration of the connector the object for source power supplies and for information, and immobilization, while being able to carry out, being able to choose the quantity of a connector as arbitration moreover and expanding the width of face of selection of a user While being able to respond to functional expansion of a connector and making easy further extra length processing and separation processing of an electric wire, let it be a technical problem to offer the joint form connector the object for power which can perform exact wiring with a compactly and sufficient appearance, and for information.

[0006]

[Means for Solving the Problem] In order to solve the above-mentioned technical problem, invention according to claim 1 The connector 2 for source power supplies equipped with the plug plug blade insertion opening 5, and the connector 3 for information equipped with the modular plug insertion opening 6. With both the above-mentioned connector 2 for source power supplies and the connector 3 for information being attached, and it being characterized by having the attachment pedestal 4 for making both the connectors 2 and 3 into a pair, and moving them, or fixing, and constituting in this way Since it has the function which the attachment pedestal 4

makes both connectors 2 and 3 a pair, and moves, or can be fixed Since it is fixable to the attachment pedestal 4 also in the state of connection even if it can perform efficiently moving both the connectors 2 and 3 or fixing to the erection material of desk 18 grade and both the connectors 2 and 3 are independent While being able to choose now the quantity of both the connectors 2 and 3 as arbitration at the time of anchoring to the attachment pedestal 4 etc. and being able to expand the width of face of selection of a user Since both the connectors 2 and 3 can be made to be able to approach mutually and can be attached, processing of the extra length of each electric wires 12 and 14 and processing of both the electric wires 12 and separation of 14 become respectively easy, and it can carry out correctly, without mistaking extraction and insertion of both the connectors 2 and 3 further.

[0007] Moreover, the connector 2 for source power supplies with which invention according to claim 2 was equipped with the plug plug blade insertion opening 5, The coupling means 7 which combines the connector 3 for information equipped with the modular plug insertion opening 6, and the connector 2 for source power supplies and the connector 3 for information mutually, Either the connector 2 for source power supplies combined by the coupling means 7 or the connector 3 for information is attached. With it being characterized by having the attachment pedestal 4 for making both the connectors 2 and 3 into a pair, and moving, or fixing, and constituting in this way While migration of both connectors 2 and 3 and immobilization become easy and being able to choose the quantity of connectors 2 and 3 as arbitration like the case of claim 1 It can respond to functional expansion of connectors 2 and 3, extra length processing and separation processing of electric wires 12 and 14 become easy further, and exact wiring can be performed with a compactly and sufficient appearance. Furthermore, in addition, by combining both the connectors 2 and three comrades by the coupling means 7, what is necessary is just to come to attach either the connector 2 for source power supplies, or the connector 3 for information in the attachment pedestal 4, and anchoring progresses further.

[0008] Invention according to claim 3 is set to claim 1 or claim 2. The connector 3 for information Moreover, the modular jack 8, While consisting of the case 9 for modular ones which contains a modular jack 8 and attaching the case 9 for modular one in either the attachment pedestal 4 or the connector 2 for source power supplies It is desirable to enable attachment and detachment of a modular jack 8 to the case 9 for modular one, it is constituting in this way, and also after attaching only the case 9 for modular one in the attachment pedestal 4, the addition of the function of a modular jack 8 can be performed easily, and extension of a connector becomes easy.

[0009] Moreover, in claim 1 or claim 2, invention according to claim 4 forms a plug 10 at the tip of the electric wire 14 for power sources while connecting the electric wire 14 for power sources to the terminal area for power of the connector 2 for source power supplies. While connecting the electric wire 12 for information to the terminal area 11 for modular one of the connector 3 for information, it is desirable to form the connector 13 for a communication link at the tip of the electric wire 12 for information, and it is constituting in this way. Though it is the structure which combined the connector 2 for source power supplies, and the connector 3 for information, the wiring activity the object for power and for information becomes easy.

[0010] Moreover, field 2a of the side in which, as for invention according to claim 5, the plug plug blade insertion opening 5 of the connector 2 for source power supplies is formed in claim 1 or claim 2, It is desirable to form in abbreviation flush field 3a of the side in which the modular plug insertion opening 6 of the connector 3 for information is formed, and it is constituting in this way, and even when the connectors 2 and 3 with which classes differ are put in order and it attaches in the attachment pedestal 4, it comes to present the continuous appearance.

[0011] Moreover, in claim 1 or claim 2, as for invention according to claim 6, it is desirable to form the cross-section dimension of the appearance of the connector 2 for source power supplies and the cross-section dimension of the appearance of the connector 3 for information in an abbreviation same dimension, and it is constituting in this way, and it only doubles side-face 2b of both the connectors 2 and 3, and 3b, and can combine both the connectors 2 and 3 without exterior sense of incongruity. Moreover, while invention according to claim 7 arranges the functional block 35 which equipped the side of the connector 2 for source power supplies, or the connector 3 for information with a control function like overcurrent detector 35a in claim 1 or claim 2 It is desirable to form a connector 2 or the longitudinal-section dimension of the appearance of 3, and the cross-section dimension of the appearance of functional block 35 in an abbreviation same dimension, and it is constituting in this way. Even when a connector 2 or functional block 35 like 3 and overcurrent detector 35a is put in order and it joins together, a connector 2 or anchoring to 3 is attained without sense of incongruity in functional block 35.

[0012] Moreover, invention according to claim 8 is set to claim 1 or claim 2. It is desirable to have the covering 15 for electric-wire receipt for separating and containing the electric wire 12 for information connected with the electric wire 14 for power sources connected to the terminal

area for power of the connector 2 for source power supplies at the terminal area 11 for modular one of the connector 3 for information in the exterior of both the connectors 2 and 3. Thus, with constituting, the covering 15 for electric-wire receipt separates electric wires 12 and 14, it can contain now, and discernment of weak electric current and heavy current becomes easy.

[0013]

[Embodiment of the Invention] Hereafter, an example of the operation gestalt of this invention is explained. The subject consists of attachment pedestals 4 to make both the connectors 2 and 3 into a pair, and move them, or fix [the connector 2 for source power supplies equipped with the plug plug blade insertion opening 5, the connector 3 for information equipped with the modular plug insertion opening 6, and both the above-mentioned connectors 2 and 3 are attached and] the joint form connector 1 the object for power, and for information, as shown in drawing 1 and drawing 2.

[0014] The connector 2 for source power supplies is equipped with the case 30 for power made from a wrap insulating material for the knife-edge-bearing spring (not shown) arranged corresponding to the plug plug blade insertion opening 5, the terminal area for power (not shown) electrically connected to a knife-edge-bearing spring, and this. The case 30 for power is divided into top-cover 30a and lower lid 30b, and each other is being fixed with the captive screw 99. With this operation gestalt, although the connector 2 for source power supplies is installed upward in the state of three-piece juxtaposition, it may be sideways installed like drawing 11 (b), and an installation condition is not restricted to the operation gestalt of drawing 1 about the quantity of a connector 2 that what is necessary is just one or more pieces, either. Moreover, it may escape and you may be the thing which is a stop type as not restricted to the thing of drawing 1 but shown in drawing 4 also about the class of plug plug blade insertion opening 5 of the connector 2 for source power supplies.

[0015] The connector 3 for information consists of a modular jack 8 and the case 9 for modular one made from an insulating material which contains a modular jack 8, as shown in drawing 3. A modular jack 8 is ** equipped with the modular plug insertion opening 6, the terminal area 11 for modular ones arranged corresponding to this, and the connecting means 36 for connecting the electric wire 12 for information to the terminal area 11 for modular one. The case 9 for modular one consists of the body part 32 attached in the attachment pedestal 4, the covering section 33 attached in a body part 32, and a captive screw 34. The front openings 31a and 31b corresponding to the modular plug insertion opening 6 and rear-face opening 31c in which the electric wire 12 for information is inserted are formed in a body part 32 and the covering section 33. And the case 9 for modular ones is assembled by making a captive screw 34 (drawing 1) screw in the screw hole 97 of a body part 32 from the screw hole 96 of the covering section 33, where fitting of the heights 98 which made two or more places of body part 32 front face protrude on the crevice 99 cut in two or more places of covering section 33 inferior surface of tongue is carried out. When having attached in the attachment pedestal 4 the case 9 for modular one which does not contain a modular jack 8 when attachment and detachment of the above-mentioned modular jack 8 are attained to this case 9 for modular one and the connector 3 for information is not used and using the connector 3 for information, the connector 3 for information can be used by demounting the covering section 33 of the case 9 for modular one, containing a modular jack 8, and attaching the covering section 33. In addition, with this operation gestalt, although the connector 3 for information is sideways installed in the state of two-piece juxtaposition, it may be installed upward like drawing 11 (a), and an installation condition is not restricted to the operation gestalt of drawing 1 about the quantity of a connector 3 that what is necessary is just one or more pieces, either.

[0016] Here, as shown in the terminal area for power of the above-mentioned connector 2 for source power supplies at drawing 4, the electric wire 14 for power sources is connected, and the plug 10 is formed at the tip of this electric wire 14 for power sources. Moreover, the electric wire 12 for information is connected to the terminal area 11 for modular one of the connector 3 for information, and the connector 13 for a communication link is formed at the tip of this electric wire 12 for information. With the operation gestalt of drawing 4, one common electric wire 14 for power sources is pulled out from the connector 2 for source power supplies, the plug 10 is connected at that tip, from the connector 3 for information, two or more electric wires 12 (this operation gestalt 2) for information are pulled out every modular jack 8, and the connector 13 (a modular plug, various connectors of modular jack 8 grade) for a communication link is connected at the tip of each electric wire 12 for information.

[0017] On the other hand, the attachment pedestal 4 consists of fixing metal 37 with which narrow lower horizontal piece 4b and piece of connection 4c which connects these were really formed, and a bolting screw 39 screwed in the screw hole 38 of lower horizontal piece 4b at upper horizontal piece 4a broad in a longitudinal direction, and a longitudinal direction, as shown in drawing 1. As for broad upper horizontal piece 4a, the anchoring section 41 for power in which the connector 2 for source power supplies is attached, and the anchoring section 42 for information in which

the connector 3 for information is attached are formed in one. The screwhole 43 for two or more anchoring is formed in the anchoring section 41 for power, it attaches in the anchoring section 42 for information, and the screwhole 44 and the pore 45 for baffles of business are formed, and where the projection (not shown) which protruded on the base of the connector 3 for information is inserted in the pore 45 for baffles, it has come to be able to carry out the screw stop of the connector 3 for information. And by binding tight with upper horizontal piece 4a of fixing metal 37 like drawing 2 (b), facing across the edge of a desk 18 from the upper and lower sides by the piece 46 of press of the upper limit of a screw 39, rotating the tongue section 47 of the bolting screw 39, and binding tight, the attachment pedestal 4 is bound tight on a desk and it can fix now.

[0018] In addition, inside horizontal piece 4d is added and prepared like drawing 2 (c) between upper horizontal piece 4a and lower horizontal piece 4b, it binds tight with inside horizontal piece 4d, and you may make it pinch the edge of a desk 18 by the piece 46 of press of the upper limit of a screw 39. In this case, anchoring becomes possible in the condition of having floated both the connectors 2 and 3 from the desk 18. Since it has the function which the attachment pedestal 4 is made into a pair, and moves both connectors 2 and 3, or can be fixed in carrying out a deer and attaching the connector 2 for source power supplies, and the connector 3 for information in the attachment pedestal 4. Since both the connectors 2 and 3 are demounted together or immobilization is possible by moving the attachment pedestal 4 or fixing in moving a location by modification of a desk layout, extension of a device, etc., migration and immobilization of both the connectors 2 and 3 can be performed efficiently. Moreover, since both the connectors 2 and 3 are carrying out not only an appearance but the approach to the attachment pedestal 4 "cling", [abbreviation] while being able to expand the width of face of selection of a user, since it is fixable to the attachment pedestal 4 also in the state of connection even if both the connectors 2 and 3 are independent, an appearance not only improves, but anchoring to the attachment pedestal 4 becomes easy, and — since both the connectors 2 and 3 are mutually close — each electric wires 12 and 14 — abbreviation — from the same location — coming out — coming — thereby — the extra length of each electric wires 12 and 14 — abbreviation — while it becomes the same and processing of extra length becomes easy, processing of both the electric wires 12 and separation of 14 also becomes easy, and can be performed with a correctly and sufficient appearance, without mistaking extraction and insertion of both the connectors 2 and 3.

[0019] Moreover, since attachment and detachment of a modular jack 8 were enabled in the case 9 for modular ones shown in drawing 3. Since it becomes possible not to install a modular jack 8 in an early installation phase, but to attach only the case 9 for modular one in the attachment pedestal 4, and to add and form a modular jack 8 after that. It can be used only as an object for source power supplies, or can be used as the object for source power supplies, and an object for information, and can fully respond to extension of the connector 3 for information, and the width of face of selection of a user can be expanded more. Moreover, since it is compatible with the house wiring instrument generally marketed of the connectors 2 and 3 attached in the attachment pedestal 4 while being able to change the number and class of connector easily only by forming upper horizontal piece 4a of the attachment pedestal 4 oblong, there is also an advantage that it can respond also to extension of other goods easily.

[0020] Drawing 6 - drawing 9 show other operation gestalten. With this operation gestalt, either the connector 2 for source power supplies combined by the coupling means 7 which combines the connector 2 for source power supplies and the connector 3 for information mutually, and the coupling means 7, or the connector 3 for information was attached, and it has the attachment pedestal 4 for making both the connectors 2 and 3 into a pair, and moving them, or fixing. The basic structure of the connector 2 for source power supplies and the connector 3 for information is the same as said operation gestalt. As shown in drawing 7, while the insertion opening 50 is formed in the tooth back of the connector 2 for source power supplies, the wiring tooth space 200 for the electric wires for power sources is provided, and the wiring tooth space 201 for the electric wires for information is provided for the tooth back of the connector 3 for information. Moreover, the attachment pedestal 4 consists of fixing metal 37 of the K0 typeface equipped with upper horizontal piece 4a, lower horizontal piece 4b, and piece of connection 4c, and a bolting screw 39 screwed in the screwhole 38 of lower horizontal piece 4b, as shown in drawing 8. Moreover, the fastener 300 is attached in the both ends of lower horizontal piece 4b, respectively, and the electric wire 14 for power sources and the electric wire 12 for information can be separated, or where a part for the extra length of an electric wire is bundled, it can hold now. In addition, about the number of a fastener 300, it is not restricted to two pieces.

[0021] In carrying out a deer and attaching connectors 2 and 3 in a desk 18. In the condition of having inserted in the insertion opening 50 which carried out opening to the tooth back of the case 30 for power, upper horizontal piece 4a like drawing 6. By binding tight with base 2c of the connector 2 for source power supplies, pinching across the edge of a desk 18 from the upper and

lower sides by the piece 46 (drawing 8) of press of the upper limit of a screw 39, rotating the section 47 (drawing 8), and binding tight While the attachment pedestal 4 is bound tight on a desk 18 and it can fix, the connector 2 for source power supplies can be fixed to a desk 18.

[0022] Here, the above-mentioned fixing metal 37 fixes only the connector 2 for source power supplies, and the connector 3 for information uses a coupling means 7 for the connector 2 for source power supplies, and is combined with it. An example of a coupling means 7 is shown in drawing 9. Hollow 51a of the letter of the abbreviation for T characters is formed in the edge by the side of the connector 3 for information of base 2c of the connector 2 for source power supplies, and hollow 51b of the letter of the abbreviation for T characters of the same depth as the above-mentioned hollow 51a is formed in the edge by the side of the connector 2 for source power supplies of base 3c of the connector 3 for information. Moreover, the connection implement 52 for connecting both the connectors 2 and 3 can combine both the connectors 2 and 3 now by one-touch through the connection implement 52 by being formed in an abbreviation H form, making hollow 51b carry out fitting of the other end 52b for end section 52a into hollow 51a, respectively, and fixing the both ends of the connection implement 52 with a screw 53 with the dished tapping screw 53, respectively. Moreover, since the both ends 52a and 52b of the connection implement 52 are carrying out the configuration which can fit in so that it may not separate from Hollows 51a and 51b, both the connectors 2 and three comrades can be firmly combined using one connection implement 52. Moreover, also when connecting many connectors mutually, it can connect now easily using two or more connection implements 52, and can respond also to extension of a connector easily. In addition, fixing metal 37 is not limited to the specific location of the edge of a desk 18, and can be attached in every location.

[0023] Moreover, as the above-mentioned coupling means 7 is not limited to the structure of drawing 9 and shown in drawing 10 Hollow 51a' of the letter of the abbreviation for L characters is formed in the both ends of base 2c of the connector 2 for source power supplies, respectively. A magnet 54 is attached in two or more places (for example, three places) of base 2c. The wiring tooth space 200 of the electric wire for power sources is provided for one place of base 2c, on the other hand, above-mentioned hollow 51a' and hollow 51b' of the same depth are formed in base 3c of the connector 3 for information, and you may make it attach the above-mentioned magnet 54 and the magnet 54 of the same height in one place of base 3c. 51c in drawing is the fitting section. And while carrying out fitting of connection implement 52' of T typeface into hollow 51a' of an abbreviation L typeface, and 51b' Where fitting is carried out to fitting section 51c, height 52c made to protrude on connection implement 52' While both the connectors 2 and 3 are combinable using one connection implement 52' by carrying out the screw stop of the both ends of connection implement 52' to both the connectors 2 and 3, it can join together more firmly because height 52c of connection implement 52' fits into fitting section 51c. Moreover, in case both the connectors 2 and 3 are attached in a desk with fixing metal 37 (drawing 9), temporary immobilization of both the connectors 2 and 3 can do the above-mentioned magnet 54 by carrying out ** arrival to a metal desk, and anchoring nature becomes much more good.

[0024] in addition, the part in which it replaces with the above-mentioned magnet 54, and a magnet 54 is formed -- base 2c of the connector 2 for source power supplies, and base 3c of the connector 3 for information -- respectively -- abbreviation -- while making it project in the same height, you may make it constitute a part for these lobes from a large ingredient of frictions, such as rubber In this case, when it installs on a desk, the amount of [which the frictional resistance of rubber etc. becomes from a large ingredient] lobe comes to achieve the function of a skid, and the stable installation condition comes to be acquired. in addition, it comes out not to mention what may form a part for the above-mentioned lobe with the quality of the material same in addition to rubber as the case of connectors 2 and 3.

[0025] Drawing 11 (a) shows the case where field 2a of the side in which the plug plug blade insertion opening 5 of the connector 2 for source power supplies is formed, and field 3a of the side in which the modular plug insertion opening 6 of the connector 3 for information is formed are formed in abbreviation flush. Thus, by making flat-tapped the top faces 2a and 3a of both the connectors 2 and 3, even when both the connectors 2 and 3 are put in order and it attaches in the attachment pedestal 4, it comes to present the continuous appearance, and there is no sense of incongruity and the connector of a different class can be attached. Moreover, what is necessary is just to form front 2a' and 3a' flat-tapped, when the plug plug blade insertion opening 5 and the modular plug insertion opening 6 are formed in front 2a' and 3a' like drawing 11 (b).

[0026] Drawing 12 shows the case where the cross-section dimension of the appearance of the connector 2 for source power supplies and the cross-section dimension of the appearance of the connector 3 for information are formed in an abbreviation same dimension. Thus, by considering as the same dimension configuration, the joint form connector 1 used as exterior one is obtained only by doubling side-face 2b of both the connectors 2 and 3, and 3b. Moreover, since the cross-section dimension of an appearance is similarly also formed (i. e., since both the connectors 2 and 3 are formed with the same cross-section dimension so that the top faces of both the

connectors 2 and 3, tooth backs, and front faces may become respectively flat-tapped), they can connect both the connectors 2 and 3 without exterior sense of incongruity.

[0027] Drawing 13 and drawing 14 show the case where the longitudinal-section dimension of the appearance of a connector 2 and the cross-section dimension of the appearance of functional block 35 are formed in an abbreviation same dimension while arranging the functional block 35 equipped with a control function like overcurrent detector 35a in the side of the connector 2 (you may be the connector 3 for information.) for source power supplies. This overcurrent detector 35a is equipped with the components 60 for current detection, such as CT, the control circuit 61 realized with the microcomputer into which the detecting signal from this component 60 for current detection is inputted, and the switch 62 for changing off, when an overcurrent is detected and stopping the electric power supply to the inner machine (plug socket) 300 of a connector 2. The magnitude of functional block 35 is formed in the same magnitude as one unit of a connector 2 with this operation gestalt. In addition, the above-mentioned functional block 35 may be formed in the same magnitude as the anchoring unit of the inner machine (plug socket) of a connector 2. Moreover, functional block 35 is contained in the case 63 of a connector 2, and really formed case section 64, and the opening 65 of the case section 64 is covered with the eye hiding lid 66. In attaching functional block 35, functional block 35 and a connector 2 can be unified like drawing 14 (c) by demounting the eye hiding lid 66, containing functional block 35 to case circles, and fixing the eye hiding lid 66 on a screw 67. Therefore, while being able to use functional block 35 by making it one, comparing with the connector 2 for source power supplies, or the connector 3 for information, also after installing both the connectors 2 and 3, there is an advantage that the addition of addition functions, such as overcurrent detector 35a, can be performed easily.

[0028] In addition, the case section 64 of functional block 35 and the case 63 of a connector 2 are constituted from an another object, functional block 35 and a connector 2 are put in order, and you may make it install. Drawing 15 (a) shows the case where it has the covering 15 for electric-wire receipt for separating and containing the electric wire 12 for information connected with the electric wire 14 for power sources connected to the terminal area for power of the connector 2 for source power supplies at the terminal area 11 for modular one of the connector 3 for information in the exterior of both the connectors 2 and 3. With the operation gestalt shown in drawing 15 (a), covering 15a for electric-wire receipt consists of a piece 70 of a base, pieces 71 and 72 of a both-sides side in which the oblong openings 75 and 76 were formed, respectively, and a piece 73 of an end face, and the edge of the pieces 71 and 72 of a both-sides side is being fixed to the lateral surface of both the connectors 2 and 3 on the screw 74, respectively. The covering 15 for electric-wire receipt can be post-installed to both the connectors 2 and 3. The electric wire 14 for power sources or the electric wire 12 for information is pulled out outside from one opening 75, and when the electric wire 12 for information or the electric wire 14 for power sources is pulled out by the opposite direction in the electric wire 14 for power sources, both electric wires 12 and 35 are separated from the opening 76 of another side.

[0029] In addition, the separation wall 77 is established in the covering 15 for electric-wire receipt like drawing 15 (b), and you may make it the separation wall 77 separate the electric wire 14 for power sources, and the electric wire 12 for information. Moreover, in the separation wall 77 and the pieces 71 and 72 of a both-sides side, two or more concave openings 78 and 79 are formed, respectively, and a wiring activity is attained from the upper part at them. Furthermore, a cash drawer is possible not only in an opposite direction but the same direction in both electric wires. Thus, there is an advantage that discernment of weak electric current and heavy current can be performed easily, by having separated electric wires 12 and 14 with the separation wall 77. Moreover, in order to ensure wiring, the tension stop member 80 is formed in the covering 15 for electric-wire receipt like drawing 16, you may make it fix this to the piece 70 of a base of the covering 15 for electric-wire receipt on a screw 81, and electric wires 12 and 14 can fully be protected by the tension stop member 80 in this case.

[0030] Drawing 17 shows the case where a wiring function and a connector slide function are given to the attachment pedestal 4 in addition to the fixed function to a desk 18. A wiring function establishes the hollow box 85 which carried out opening, respectively in a top face and a side face, and has fixed the lower limit of the hollow box 85 to piece of connection 4c of fixing metal 37 in the upper part of fixing metal 37 in which both the connectors 2 and 3 are attached. It connects free [a slide in the direction which shows connectors 2 and 3 by the arrow head H of drawing 17 R> 7 to the hollow box 85] by on the other hand making upper limit marginal 85a of the hollow box 85 stop the hook 86 which protruded on the base of connectors 2 and 3, respectively. Since both the connectors 2 and 3 can be easily moved on a desk 18 when a deer is carried out and both the connectors 2 and 3 are installed on a desk 18 with fixing metal 37, it is not necessary to demount the attachment pedestal 4 from a desk 18 one by one, and user-friendliness becomes good. Moreover, since it ****s on the electric wires 12 and 14 pulled out

from connectors 2 and 3 in the box 85 while connectors 2 and 3 are connected free [a slide] to the hollow box 85, there is no fear of electric wires 12 and 14 tangling also at the time of a slide, and slide actuation can be performed smoothly at it. In addition, although the case where both a wiring function and a connector slide function were prepared was explained, of course, you may have one of functions.

[0031] As the case where an accessory case 90 is attached is shown in the connector 2 (the same is said of the connector 3 for information) for source power supplies and it is shown in drawing 18 (b), drawing 18 (a) shows the case where a nameplate 91 is attached, and compares an accessory case 90 and a nameplate 91 with a connector in this case, or can use them now for one. Moreover, since an accessory case 90 can be attached in the side of a connector 2 by post-installation, an accessory case 90 does not become obstructive at the time of the installation in early stages of a connector 2. Moreover, it becomes easy to do the activity of a switch of wiring etc. by writing the identifier of the owner of the personal computer connected to the corresponding connector 2 on a nameplate 91.

[0032] Drawing 19 shows the case where use the Taira form power cable 92 for the connector 2 (the same is said of or the connector 3 for information) for source power supplies, and a converter 96 is connected to it. The vessel 93 in a converter is connected to the edge of the Taira form power cable 92 connected to the terminal area for power sources of the connector 2 for source power supplies. By connecting the vessel 95 in a converter to the edge of the round power cable 94 connected to the plug 10, containing both vessels 93 and 95 in a converter between lower lid 96a of a converter 96, and top-cover 96b, and fixing on a screw 97 The Taira form power cable 92 can be transformed now into the common round power cable 94. Thus, as shown in drawing 20, while being able to let it pass easily into the slit part between desks 18 by using the Taira form power cable 92 as an electric-wire cable pulled out by the exterior of a connector 2, it becomes the thing excellent in anchoring nature and appearance nature. Moreover, a transducer 96 can perform conversion on a round electric-wire cable easily if needed. Drawing 21 shows the case where another connector 2 for source power supplies is later added to the connector 2 for source power supplies.

[0033] Drawing 22 shows an example in the case of connecting electrically and mechanically the 2nd connector B (for example, the connector 2 for source power supplies or the connector 3 for information) by which the plug is not connected to the 1st connector A (for example, connector 2 for source power supplies) to which the plug 10 is connected. The convex spigot section 100 which turns into an electrical connection from the center of a side face of the 2nd connector B protrudes. The stop pawl 101 of a pair protrudes on the both sides, and, on the other hand, the concave spigot-ed section 102 which turns into an electrical connection is formed in the center of a side face of the 1st connector A with plug 10. By the engagement hole 103 (opening or knock out section) with which the above-mentioned stop pawl 101 is engaged being formed in the both sides, inserting the spigot section 100 in the spigot-ed section 102, and making the stop pawl 101 engage with the engagement hole 103 Both the connectors 2 and 3A and B can be connected now electrically and mechanically. And also in any of connection of connector 2 comrades for source power supplies, connection of the connector 2 for source power supplies and the connector 3 for information, or connection of connector 3 comrades for information, electrical coupling of connectors and mechanical association can be performed now by one-touch. In addition, invasion of dust or dust can be prevented by it being attached to the above-mentioned spigot-ed section 102 stop pawl 105, closing in it, and equipping it with a plate 104, when not connecting the 2nd connector B.

[0034] Drawing 23 shows the case where the connector 2 for source power supplies and the connector 3 for information are covered with the covering 110 with opening 110a. This covering 110 is formed in the cross-section inverted-L-shaped which can cover the top face of a connector, and an order side, respectively. Even when the connection condition of connectors has shifted somewhat, while being able to amend that gap easily with this covering 110, an appearance becomes what was felt more refreshed with covering 110.

[0035] Drawing 24 shows the case where the rotation linkage 115 which connects upper horizontal piece 4a of fixing metal 37 in the vertical direction free [rotation] to piece of connection 4c is established. Instead by rotating fixing metal 37 in this rotation linkage, whenever [setting angle / of connectors 2 and 3] can insert a plug etc. now easily by this, and it becomes easy to operate a user. In addition, when there is a connector 2 (or 3) of two or more units, you may enable it to rotate only the connector of one unit. Moreover, you may make it attach all or some of inner machine 120 (or inner machine 121 for information) for source power supplies free [rotation] in a case 6 like drawing 25 R> 5 (b).

[0036] in addition, although said each operation gestalt explained the case where the joint form connector 1 was attached in a desk 18, it is not necessarily limited to this and comes out not to mention the ability to attach in other erection material other than a desk.

[0037]

[Effect of the Invention] As explained above, among this inventions invention according to claim 1 The connector for source power supplies equipped with plug plug blade insertion opening, and the connector for information equipped with modular plug insertion opening. Since it has the attachment pedestal for both the above-mentioned connector for source power supplies and the connector for information being attached, and making both connectors into a pair, and moving them, or fixing Since it has the function which an attachment pedestal is made into a pair, and moves both connectors, or can be fixed in attaching the connector for source power supplies, and the connector for information in an attachment pedestal When moving a location by modification of a desk layout, extension of a device, etc., migration and immobilization of an attachment pedestal can be performed efficiently. Moreover, since it is fixable to an attachment pedestal also in the state of connection even if both connectors are independent Since the quantity of both connectors can be chosen as arbitration, while being able to expand the width of face of selection of a user It comes to come out from the same location. since both connectors can be made to be able to approach mutually and can be attached — each electric wire — abbreviation — thereby — the extra length of each electric wire — abbreviation — it becomes the same, processing of extra length and processing of separation of an electric wire become respectively easy, and it can carry out correctly, without moreover mistaking extraction and insertion of both connectors. That is, a part for extra length etc. can be arranged finely and exact wiring can be performed with a compactly and sufficient appearance.

[0038] Moreover, the connector for source power supplies with which invention according to claim 2 was equipped with plug plug blade insertion opening. The coupling means which combines the connector for information equipped with modular plug insertion opening, and the connector for source power supplies and the connector for information mutually. Either the connector for source power supplies combined in the coupling means or the connector for information is attached. Since it has the attachment pedestal for making both connectors into a pair, and moving, or fixing While being able to perform easily migration of the connector the object for source power supplies and for information, and immobilization, being able to choose the quantity of a connector as arbitration moreover like effectiveness according to claim 1 and expanding the width of face of selection of a user It can respond to functional expansion of a connector, and further, while making easy extra length processing and separation processing of an electric wire, exact wiring can be performed with a compactly and sufficient appearance. Furthermore, in addition, by combining both connectors in a coupling means, what is necessary is just to attach either the connector for source power supplies, or the connector for information in an attachment pedestal, and anchoring workability improves further.

[0039] Invention according to claim 3 is added to effectiveness according to claim 1 or 2. The connector for information Moreover, a modular jack. While consisting of the case for modular one which contains a modular jack and attaching the case for modular one in either an attachment pedestal or the connector for source power supplies Since attachment and detachment of a modular jack were enabled to the case for modular one, also after attaching only the case for modular one in an attachment pedestal, the addition of the function of a modular jack can be performed easily and can expand the width of face of selection of a user more. For example, since it becomes possible not to install a modular jack in an early installation phase, but to attach only the case for modular one in an attachment pedestal, and to add and prepare a modular jack after that, it can fully respond now to extension of the connector for information, and it can be used only as an object for source power supplies, or can be used as the object for source power supplies, and an object for information, and can fully respond to extension of the connector for information further.

[0040] Moreover, invention according to claim 4 is added to effectiveness according to claim 1 or 2. While connecting the electric wire for power sources to the terminal area for power of the connector for source power supplies, a plug is prepared at the tip of the electric wire for power sources. Since the connector for a communication link was prepared at the tip of the electric wire for information while connecting the electric wire for information to the terminal area for modular one of the connector for information, though it is the structure which combined the connector for source power supplies, and the connector for information, the wiring activity the object for power and for information becomes easy.

[0041] Moreover, even when invention according to claim 5 puts in order the connector with which classes differ since the near field in which plug plug blade insertion opening of the connector for source power supplies is prepared, and the near field in which modular plug insertion opening of the connector for information is prepared were formed in abbreviation flush in addition to effectiveness according to claim 1 or 2 and it attaches in an attachment pedestal, it comes to present the continuous appearance and the appearance felt more refreshed is acquired.

[0042] Moreover, since invention according to claim 6 formed the cross-section dimension of the appearance of the connector for source power supplies, and the cross-section dimension of the appearance of the connector for information in the abbreviation same dimension in addition to

effectiveness according to claim 1 or 2, the side faces of both connectors are only doubled and the joint form connector used as exterior one is obtained. That is, since the cross-section dimension is the same, the top faces of both connectors, tooth backs, and front faces become respectively flat-tapped, and a sense of togetherness between both connectors is acquired.

[0043] Moreover, while invention according to claim 7 arranges functional block which equipped the side of the connector for source power supplies, or the connector for information with a control function like an overcurrent detector in addition to effectiveness according to claim 1 or 2. Since the longitudinal-section dimension of the appearance of a connector and the cross-section dimension of the appearance of functional block were formed in the abbreviation same dimension and both are formed with the same cross-section dimension even when functional block like a connector and an overcurrent detector is put in order and it joins together Anchoring to a connector is attained without sense of incongruity in functional block.

[0044] Moreover, invention according to claim 8 is added to effectiveness according to claim 1 or 2. Since it has covering for electric-wire receipt for separating and containing the electric wire for information connected with the electric wire for power sources connected to the terminal area for power of the connector for source power supplies at the terminal area for modular one of the connector for information in the exterior of both connectors. Covering for electric-wire receipt separates an electric wire, it can contain now, discernment of weak electric current and heavy current can become easy, and it can make a mistake in a wiring activity, and can carry out smoothly [there is nothing and].

[Translation done.]

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the joint form connector the object for power, and for information.

[Translation done.]

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PRIOR ART

[Description of the Prior Art] The connector of both the object for source power supplies and for information is required for information machines and equipment and multimedia devices, such as a personal computer, FAX, and a telephone. It is common to constitute the connector 2 for source power supplies and the connector 3 for information which are connected to a notebook sized personal computer 19 according to an individual, to detach these, and to use it, installing in the wiring gutter 20 of a desk 18 so that it may be shown in the former, for example, drawing 26.

[Translation done.]

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EFFECT OF THE INVENTION

[Effect of the Invention] As explained above, among this inventions invention according to claim 1 The connector for source power supplies equipped with plug plug blade insertion opening, and the connector for information equipped with modular plug insertion opening. Since it has the attachment pedestal for both the above-mentioned connector for source power supplies and the connector for information being attached, and making both connectors into a pair, and moving them, or fixing Since it has the function which an attachment pedestal is made into a pair, and moves both connectors, or can be fixed in attaching the connector for source power supplies, and the connector for information in an attachment pedestal When moving a location by modification of a desk layout, extension of a device, etc., migration and immobilization of an attachment pedestal can be performed efficiently. Moreover, since it is fixable to an attachment pedestal also in the state of connection even if both connectors are independent Since the quantity of both connectors can be chosen as arbitration, while being able to expand the width of face of selection of a user It comes to come out from the same location. since both connectors can be made to be able to approach mutually and can be attached -- each electric wire -- abbreviation -- thereby -- the extra length of each electric wire -- abbreviation -- it becomes the same, processing of extra length and processing of separation of an electric wire become respectively easy, and it can carry out correctly, without moreover mistaking extraction and insertion of both connectors. That is, a part for extra length etc. can be arranged finely and exact wiring can be performed with a compactly and sufficient appearance.

[0038] Moreover, the connector for source power supplies with which invention according to claim 2 was equipped with plug plug blade insertion opening. The coupling means which combines the connector for information equipped with modular plug insertion opening, and the connector for source power supplies and the connector for information mutually. Either the connector for source power supplies combined in the coupling means or the connector for information is attached. Since it has the attachment pedestal for making both connectors into a pair, and moving, or fixing While being able to perform easily migration of the connector the object for source power supplies and for information, and immobilization, being able to choose the quantity of a connector as arbitration moreover like effectiveness according to claim 1 and expanding the width of face of selection of a user It can respond to functional expansion of a connector, and further, while making easy extra length processing and separation processing of an electric wire, exact wiring can be performed with a compactly and sufficient appearance. Furthermore, in addition, by combining both connectors in a coupling means, what is necessary is just to attach either the connector for source power supplies, or the connector for information in an attachment pedestal, and anchoring workability improves further.

[0039] Invention according to claim 3 is added to effectiveness according to claim 1 or 2. The connector for information Moreover, a modular jack. While consisting of the case for modular one which contains a modular jack and attaching the case for modular one in either an attachment pedestal or the connector for source power supplies Since attachment and detachment of a modular jack were enabled to the case for modular one, also after attaching only the case for modular one in an attachment pedestal, the addition of the function of a modular jack can be performed easily and can expand the width of face of selection of a user more. For example, since it becomes possible not to install a modular jack in an early installation phase, but to attach only the case for modular one in an attachment pedestal, and to add and prepare a modular jack after that, it can fully respond now to extension of the connector for information, and it can be used only as an object for source power supplies, or can be used as the object for source power supplies, and an object for information, and can fully respond to extension of the connector for information further.

[0040] Moreover, invention according to claim 4 is added to effectiveness according to claim 1 or 2. While connecting the electric wire for power sources to the terminal area for power of the connector for source power supplies, a plug is prepared at the tip of the electric wire for power sources. Since the connector for a communication link was prepared at the tip of the electric

wire for information while connecting the electric wire for information to the terminal area for modular one of the connector for information, though it is the structure which combined the connector for source power supplies, and the connector for information, the wiring activity the object for power and for information becomes easy.

[0041] Moreover, even when invention according to claim 5 puts in order the connector with which classes differ since the near field in which plug plug blade insertion opening of the connector for source power supplies is prepared, and the near field in which modular plug insertion opening of the connector for information is prepared were formed in abbreviation flush in addition to effectiveness according to claim 1 or 2 and it attaches in an attachment pedestal, it comes to present the continuous appearance and the appearance felt more refreshed is acquired.

[0042] Moreover, since invention according to claim 6 formed the cross-section dimension of the appearance of the connector for source power supplies, and the cross-section dimension of the appearance of the connector for information in the abbreviation same dimension in addition to effectiveness according to claim 1 or 2, the side faces of both connectors are only doubled and the joint form connector used as exterior one is obtained. That is, since the cross-section dimension is the same, the top faces of both connectors, tooth backs, and front faces become respectively flat-tapped, and a sense of togetherness between both connectors is acquired.

[0043] Moreover, while invention according to claim 7 arranges functional block which equipped the side of the connector for source power supplies, or the connector for information with a control function like an overcurrent detector in addition to effectiveness according to claim 1 or 2 Since the longitudinal-section dimension of the appearance of a connector and the cross-section dimension of the appearance of functional block were formed in the abbreviation same dimension and both are formed with the same cross-section dimension even when functional block like a connector and an overcurrent detector is put in order and it joins together Anchoring to a connector is attained without sense of incongruity in functional block.

[0044] Moreover, invention according to claim 8 is added to effectiveness according to claim 1 or 2. Since it has covering for electric-wire receipt for separating and containing the electric wire for information connected with the electric wire for power sources connected to the terminal area for power of the connector for source power supplies at the terminal area for modular one of the connector for information in the exterior of both connectors Covering for electric-wire receipt separates an electric wire, it can contain now, discernment of weak electric current and heavy current can become easy, and it can make a mistake in a wiring activity, and can carry out smoothly [there is nothing and].

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, if it is like before when using it according to the individual, installing the connector 2 for source power supplies, and the connector 3 for information, in moving connectors 2 and 3 by modification of a desk layout, extension of a device, etc., although installed and carried out according to the individual therefore, the effectiveness of migration or immobilization worsens, and there is a problem of being easy to mistake especially extraction and insertion of a connector. And processing of the extra length of the electric wire 14 for power sources wired since both the connectors 2 and 3 separate and are installed, and the electric wire 12 for information, Processing of each electric wire 12 and separation of 14 became respectively difficult, and moreover, since the appearance differed from the method of cling, both the connectors 2 and 3 also had the problem that attaching in the wiring gutter of a desk the connector with which an exterior settlement turns up and classes differ took time and effort.

[0004] In addition, as other conventional examples, as shown in drawing 27, the cable splicing machine 21 for an electric light line communication link which included the connector 22 for power and the connector 23 for a communication link in one case 16 at one is known by JP, 8-32495, A. As for a manual operation button and 25, 24 in *** is [a pilot lamp and 26] the switches for communication circuits. However, if it was in the structure which incorporated the object for source power supplies, and the object for information collectively in one case 16 in this way, since the number of each connectors the object for source power supplies and for information was already decided, the number and class of connector which can be used will be restricted, the width of face of selection of a user became narrow, and there was a problem of it becoming impossible to correspond to especially extension of a connector.

[0005] this invention was made in view of the above-mentioned conventional example, and performs efficiently migration of the connector the object for source power supplies and for information, and immobilization, while being able to carry out, being able to choose the quantity of a connector as arbitration moreover and expanding the width of face of selection of a user While being able to respond to functional expansion of a connector and making easy further extra length processing and separation processing of an electric wire, let it be a technical problem to offer the joint form connector the object for power which can perform exact wiring with a compactly and sufficient appearance, and for information.

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MEANS

[Means for Solving the Problem] In order to solve the above-mentioned technical problem, invention according to claim 1 The connector 2 for source power supplies equipped with the plug plug blade insertion opening 5, and the connector 3 for information equipped with the modular plug insertion opening 6. With both the above-mentioned connector 2 for source power supplies and the connector 3 for information being attached, and it being characterized by having the attachment pedestal 4 for making both the connectors 2 and 3 into a pair, and moving them, or fixing, and constituting in this way Since it has the function which the attachment pedestal 4 makes both connectors 2 and 3 a pair, and moves, or can be fixed Since it is fixable to the attachment pedestal 4 also in the state of connection even if it can perform efficiently moving both the connectors 2 and 3 or fixing to the erection material of desk 18 grade and both the connectors 2 and 3 are independent While being able to choose now the quantity of both the connectors 2 and 3 as arbitration at the time of anchoring to the attachment pedestal 4 etc. and being able to expand the width of face of selection of a user Since both the connectors 2 and 3 can be made to be able to approach mutually and can be attached, processing of the extra length of each electric wires 12 and 14 and processing of both the electric wires 12 and separation of 14 become respectively easy, and it can carry out correctly, without mistaking extraction and insertion of both the connectors 2 and 3 further.

[0007] Moreover, the connector 2 for source power supplies with which invention according to claim 2 was equipped with the plug plug blade insertion opening 5. The coupling means 7 which combines the connector 3 for information equipped with the modular plug insertion opening 6, and the connector 2 for source power supplies and the connector 3 for information mutually. Either the connector 2 for source power supplies combined by the coupling means 7 or the connector 3 for information is attached. With it being characterized by having the attachment pedestal 4 for making both the connectors 2 and 3 into a pair, and moving, or fixing, and constituting in this way While migration of both connectors 2 and 3 and immobilization become easy and being able to choose the quantity of connectors 2 and 3 as arbitration like the case of claim 1 It can respond to functional expansion of connectors 2 and 3, extra length processing and separation processing of electric wires 12 and 14 become easy further, and exact wiring can be performed with a compactly and sufficient appearance. Furthermore, in addition, by combining both the connectors 2 and three comrades by the coupling means 7, what is necessary is just to come to attach either the connector 2 for source power supplies, or the connector 3 for information in the attachment pedestal 4, and anchoring progresses further.

[0008] Invention according to claim 3 is set to claim 1 or claim 2. The connector 3 for information Moreover, the modular jack 8, While consisting of the case 9 for modular ones which contains a modular jack 8 and attaching the case 9 for modular one in either the attachment pedestal 4 or the connector 2 for source power supplies It is desirable to enable attachment and detachment of a modular jack 8 to the case 9 for modular one, it is constituting in this way, and also after attaching only the case 9 for modular one in the attachment pedestal 4, the addition of the function of a modular jack 8 can be performed easily, and extension of a connector becomes easy.

[0009] Moreover, in claim 1 or claim 2, invention according to claim 4 forms a plug 10 at the tip of the electric wire 14 for power sources while connecting the electric wire 14 for power sources to the terminal area for power of the connector 2 for source power supplies. While connecting the electric wire 12 for information to the terminal area 11 for modular one of the connector 3 for information, it is desirable to form the connector 13 for a communication link at the tip of the electric wire 12 for information, and it is constituting in this way. Though it is the structure which combined the connector 2 for source power supplies, and the connector 3 for information, the wiring activity the object for power and for information becomes easy.

[0010] Moreover, field 2a of the side in which, as for invention according to claim 5, the plug plug blade insertion opening 5 of the connector 2 for source power supplies is formed in claim 1 or claim 2. It is desirable to form in abbreviation flush field 3a of the side in which the

modular plug insertion opening 6 of the connector 3 for information is formed, and it is constituting in this way, and even when the connectors 2 and 3 with which classes differ are put in order and it attaches in the attachment pedestal 4, it comes to present the continuous appearance.

[0011] Moreover, in claim 1 or claim 2, as for invention according to claim 6, it is desirable to form the cross-section dimension of the appearance of the connector 2 for source power supplies and the cross-section dimension of the appearance of the connector 3 for information in an abbreviation same dimension, and it is constituting in this way, and it only doubles side-face 2b of both the connectors 2 and 3, and 3b, and can combine both the connectors 2 and 3 without exterior sense of incongruity. Moreover, while invention according to claim 7 arranges the functional block 35 which equipped the side of the connector 2 for source power supplies, or the connector 3 for information with a control function like overcurrent detector 35a in claim 1 or claim 2 it is desirable to form a connector 2 or the longitudinal-section dimension of the appearance of 3, and the cross-section dimension of the appearance of functional block 35 in an abbreviation same dimension, and it is constituting in this way. Even when a connector 2 or functional block 35 like 3 and overcurrent detector 35a is put in order and it joins together, a connector 2 or anchoring to 3 is attained without sense of incongruity in functional block 35.

[0012] Moreover, invention according to claim 8 is set to claim 1 or claim 2. It is desirable to have the covering 15 for electric-wire receipt for separating and containing the electric wire 12 for information connected with the electric wire 14 for power sources connected to the terminal area for power of the connector 2 for source power supplies at the terminal area 11 for modular one of the connector 3 for information in the exterior of both the connectors 2 and 3. Thus, with constituting, the covering 15 for electric-wire receipt separates electric wires 12 and 14, it can contain now, and discernment of weak electric current and heavy current becomes easy.

[0013]

[Embodiment of the Invention] Hereafter, an example of the operation gestalt of this invention is explained. The subject consists of attachment pedestals 4 to make both the connectors 2 and 3 into a pair, and move them, or fix [the connector 2 for source power supplies equipped with the plug plug blade insertion opening 5, the connector 3 for information equipped with the modular plug insertion opening 6, and both the above-mentioned connectors 2 and 3 are attached and] the joint form connector 1 the object for power, and for information, as shown in drawing 1 and drawing 2.

[0014] The connector 2 for source power supplies is equipped with the case 30 for power made from a wrap insulating material for the knife-edge-bearing spring (not shown) arranged corresponding to the plug plug blade insertion opening 5, the terminal area for power (not shown) electrically connected to a knife-edge-bearing spring, and this. The case 30 for power is divided into top-cover 30a and lower lid 30b, and each other is being fixed with the captive screw 99. With this operation gestalt, although the connector 2 for source power supplies is installed upward in the state of three-piece juxtaposition, it may be sideways installed like drawing 11 (b), and an installation condition is not restricted to the operation gestalt of drawing 1 about the quantity of a connector 2 that what is necessary is just one or more pieces, either. Moreover, it may escape and you may be the thing which is a stop type as not restricted to the thing of drawing 1 but shown in drawing 4 also about the class of plug plug blade insertion opening 5 of the connector 2 for source power supplies.

[0015] The connector 3 for information consists of a modular jack 8 and the case 9 for modular one made from an insulating material which contains a modular jack 8, as shown in drawing 3. A modular jack 8 is ** equipped with the modular plug insertion opening 6, the terminal area 11 for modular ones arranged corresponding to this, and the connecting means 36 for connecting the electric wire 12 for information to the terminal area 11 for modular one. The case 9 for modular one consists of the body part 32 attached in the attachment pedestal 4, the covering section 33 attached in a body part 32, and a captive screw 34. The front openings 31a and 31b corresponding to the modular plug insertion opening 6 and rear-face opening 31c in which the electric wire 12 for information is inserted are formed in a body part 32 and the covering section 33. And the case 9 for modular ones is assembled by making a captive screw 34 (drawing 1) screw in the screw hole 97 of a body part 32 from the screw hole 96 of the covering section 33, where fitting of the heights 98 which made two or more places of body part 32 front face protrude on the crevice 99 cut in two or more places of covering section 33 inferior surface of tongue is carried out. When having attached in the attachment pedestal 4 the case 9 for modular one which does not contain a modular jack 8 when attachment and detachment of the above-mentioned modular jack 8 are attained to this case 9 for modular one and the connector 3 for information is not used and using the connector 3 for information, the connector 3 for information can be used by demounting the covering section 33 of the case 9 for modular one, containing a modular jack 8, and attaching the covering section 33. In addition, with this operation gestalt, although the connector 3 for information is sideways installed in the state of two-piece juxtaposition, it may be installed

upward like drawing 11 (a), and an installation condition is not restricted to the operation gestalt of drawing 1 about the quantity of a connector 3 that what is necessary is just one or more pieces, either.

[0016] Here, as shown in the terminal area for power of the above-mentioned connector 2 for source power supplies at drawing 4, the electric wire 14 for power sources is connected, and the plug 10 is formed at the tip of this electric wire 14 for power sources. Moreover, the electric wire 12 for information is connected to the terminal area 11 for modular one of the connector 3 for information, and the connector 13 for a communication link is formed at the tip of this electric wire 12 for information. With the operation gestalt of drawing 4, one common electric wire 14 for power sources is pulled out from the connector 2 for source power supplies, the plug 10 is connected at that tip, from the connector 3 for information, two or more electric wires 12 (this operation gestalt 2) for information are pulled out every modular jack 8, and the connector 13 (a modular plug, various connectors of modular jack 8 grade) for a communication link is connected at the tip of each electric wire 12 for information.

[0017] On the other hand, the attachment pedestal 4 consists of fixing metal 37 with which narrow lower horizontal piece 4b and piece of connection 4c which connects these were really formed, and a bolting screw 39 screwed in the screwhole 38 of lower horizontal piece 4b at upper horizontal piece 4a broad in a longitudinal direction, and a longitudinal direction, as shown in drawing 1. As for broad upper horizontal piece 4a, the anchoring section 41 for power in which the connector 2 for source power supplies is attached, and the anchoring section 42 for information in which the connector 3 for information is attached are formed in one. The screwhole 43 for two or more anchoring is formed in the anchoring section 41 for power, it attaches in the anchoring section 42 for information, and the screwhole 44 and the pore 45 for baffles of business are formed, and where the projection (not shown) which protruded on the base of the connector 3 for information is inserted in the pore 45 for baffles, it has come to be able to carry out the screw stop of the connector 3 for information. And by binding tight with upper horizontal piece 4a of fixing metal 37 like drawing 2 (b), facing across the edge of a desk 18 from the upper and lower sides by the piece 46 of press of the upper limit of a screw 39, rotating the tongue section 47 of the bolting screw 39, and binding tight, the attachment pedestal 4 is bound tight on a desk and it can fix now.

[0018] In addition, inside horizontal piece 4d is added and prepared like drawing 2 (c) between upper horizontal piece 4a and lower horizontal piece 4b, it binds tight with inside horizontal piece 4d, and you may make it pinch the edge of a desk 18 by the piece 46 of press of the upper limit of a screw 39. In this case, anchoring becomes possible in the condition of having floated both the connectors 2 and 3 from the desk 18. Since it has the function which the attachment pedestal 4 is made into a pair, and moves both connectors 2 and 3, or can be fixed in carrying out a deer and attaching the connector 2 for source power supplies, and the connector 3 for information in the attachment pedestal 4. Since both the connectors 2 and 3 are demounted together or immobilization is possible by moving the attachment pedestal 4 or fixing in moving a location by modification of a desk layout, extension of a device, etc., migration and immobilization of both the connectors 2 and 3 can be performed efficiently. Moreover, since both the connectors 2 and 3 are carrying out not only an appearance but the approach to the attachment pedestal 4 "cling", [abbreviation] while being able to expand the width of face of selection of a user, since it is fixable to the attachment pedestal 4 also in the state of connection even if both the connectors 2 and 3 are independent, an appearance not only improves, but anchoring to the attachment pedestal 4 becomes easy, and — since both the connectors 2 and 3 are mutually close — each electric wires 12 and 14 — abbreviation — from the same location — coming out — coming — thereby — the extra length of each electric wires 12 and 14 — abbreviation — while it becomes the same and processing of extra length becomes easy, processing of both the electric wires 12 and separation of 14 also becomes easy, and can be performed with a correctly and sufficient appearance, without mistaking extraction and insertion of both the connectors 2 and 3.

[0019] Moreover, since attachment and detachment of a modular jack 8 were enabled in the case 9 for modular ones shown in drawing 3. Since it becomes possible not to install a modular jack 8 in an early installation phase, but to attach only the case 9 for modular one in the attachment pedestal 4, and to add and form a modular jack 8 after that it can be used only as an object for source power supplies, or can be used as the object for source power supplies, and an object for information, and can fully respond to extension of the connector 3 for information, and the width of face of selection of a user can be expanded more. Moreover, since it is compatible with the house wiring instrument generally marketed of the connectors 2 and 3 attached in the attachment pedestal 4 while being able to change the number and class of connector easily only by forming upper horizontal piece 4a of the attachment pedestal 4 oblong, there is also an advantage that it can respond also to extension of other goods easily.

[0020] Drawing 6 - drawing 9 show other operation gestalten. With this operation gestalt, either

the connector 2 for source power supplies combined by the coupling means 7 which combines the connector 2 for source power supplies and the connector 3 for information mutually, and the coupling means 7, or the connector 3 for information was attached, and it has the attachment pedestal 4 for making both the connectors 2 and 3 into a pair, and moving them, or fixing. The basic structure of the connector 2 for source power supplies and the connector 3 for information is the same as said operation gestalt. As shown in drawing 7, while the insertion opening 50 is formed in the tooth back of the connector 2 for source power supplies, the wiring tooth space 200 for the electric wires for power sources is provided, and the wiring tooth space 201 for the electric wires for information is provided for the tooth back of the connector 3 for information. Moreover, the attachment pedestal 4 consists of fixing metal 37 of the KO typeface equipped with upper horizontal piece 4a, lower horizontal piece 4b, and piece of connection 4c, and a bolting screw 39 screwed in the screwhole 38 of lower horizontal piece 4b, as shown in drawing 8. Moreover, the fastener 300 is attached in the both ends of lower horizontal piece 4b, respectively, and the electric wire 14 for power sources and the electric wire 12 for information can be separated, or where a part for the extra length of an electric wire is bundled, it can hold now. In addition, about the number of a fastener 300, it is not restricted to two pieces.

[0021] In carrying out a deer and attaching connectors 2 and 3 in a desk 18 in the condition of having inserted in the insertion opening 50 which carried out opening to the tooth back of the case 30 for power, upper horizontal piece 4a like drawing 6 By binding tight with base 2c of the connector 2 for source power supplies, pinching across the edge of a desk 18 from the upper and lower sides by the piece 46 (drawing 8) of press of the upper limit of a screw 39, rotating the section 47 (drawing 8), and binding tight While the attachment pedestal 4 is bound tight on a desk 18 and it can fix, the connector 2 for source power supplies can be fixed to a desk 18.

[0022] Here, the above-mentioned fixing metal 37 fixes only the connector 2 for source power supplies, and the connector 3 for information uses a coupling means 7 for the connector 2 for source power supplies, and is combined with it. An example of a coupling means 7 is shown in drawing 9. Hollow 51a of the letter of the abbreviation for T characters is formed in the edge by the side of the connector 3 for information of base 2c of the connector 2 for source power supplies, and hollow 51b of the letter of the abbreviation for T characters of the same depth as the above-mentioned hollow 51a is formed in the edge by the side of the connector 2 for source power supplies of base 3c of the connector 3 for information. Moreover, the connection implement 52 for connecting both the connectors 2 and 3 can combine both the connectors 2 and 3 now by one-touch through the connection implement 52 by being formed in an abbreviation H form, making hollow 51b carry out fitting of the other end 52b for end section 52a into hollow 51a, respectively, and fixing the both ends of the connection implement 52 with a screw 53 with the dished tapping screw 53, respectively. Moreover, since the both ends 52a and 52b of the connection implement 52 are carrying out the configuration which can fit in so that it may not separate from Hollows 51a and 51b, both the connectors 2 and three comrades can be firmly combined using one connection implement 52. Moreover, also when connecting many connectors mutually, it can connect now easily using two or more connection implements 52, and can respond also to extension of a connector easily. In addition, fixing metal 37 is not limited to the specific location of the edge of a desk 18, and can be attached in every location.

[0023] Moreover, as the above-mentioned coupling means 7 is not limited to the structure of drawing 9 and shown in drawing 10 Hollow 51a' of the letter of the abbreviation for L characters is formed in the both ends of base 2c of the connector 2 for source power supplies, respectively. A magnet 54 is attached in two or more places (for example, three places) of base 2c. The wiring tooth space 200 of the electric wire for power sources is provided for one place of base 2c, on the other hand, above-mentioned hollow 51a' and hollow 51b' of the same depth are formed in base 3c of the connector 3 for information, and you may make it attach the above-mentioned magnet 54 and the magnet 54 of the same height in one place of base 3c. 51c in drawing is the fitting section. And while carrying out fitting of connection implement 52' of T typeface into hollow 51a' of an abbreviation L typeface, and 51b' Where fitting is carried out to fitting section 51c, height 52c made to protrude on connection implement 52' While both the connectors 2 and 3 are combinable using one connection implement 52' by carrying out the screw stop of the both ends of connection implement 52' to both the connectors 2 and 3, it can join together more firmly because height 52c of connection implement 52' fits into fitting section 51c. Moreover, in case both the connectors 2 and 3 are attached in a desk with fixing metal 37 (drawing 9), temporary immobilization of both the connectors 2 and 3 can do the above-mentioned magnet 54 by carrying out ** arrival to a metal desk, and anchoring nature becomes much more good.

[0024] in addition, the part in which it replaces with the above-mentioned magnet 54, and a magnet 54 is formed — base 2c of the connector 2 for source power supplies, and base 3c of the connector 3 for information — respectively — abbreviation — while making it project in the same height, you may make it constitute a part for these lobes from a large ingredient of frictions, such as rubber In this case, when it installs on a desk, the amount of [which the

frictional resistance of rubber etc. becomes from a large ingredient] lobe comes to achieve the function of a skid, and the stable installation condition comes to be acquired. in addition, it comes out not to mention what may form a part for the above-mentioned lobe with the quality of the material same in addition to rubber as the case of connectors 2 and 3.

[0025] Drawing 11 (a) shows the case where field 2a of the side in which the plug plug blade insertion opening 5 of the connector 2 for source power supplies is formed, and field 3a of the side in which the modular plug insertion opening 6 of the connector 3 for information is formed are formed in abbreviation flush. Thus, by making flat-tapped the top faces 2a and 3a of both the connectors 2 and 3, even when both the connectors 2 and 3 are put in order and it attaches in the attachment pedestal 4, it comes to present the continuous appearance, and there is no sense of incongruity and the connector of a different class can be attached. Moreover, what is necessary is just to form front 2a' and 3a' flat-tapped, when the plug plug blade insertion opening 5 and the modular plug insertion opening 6 are formed in front 2a' and 3a' like drawing 11 (b).

[0026] Drawing 12 shows the case where the cross-section dimension of the appearance of the connector 2 for source power supplies and the cross-section dimension of the appearance of the connector 3 for information are formed in an abbreviation same dimension. Thus, by considering as the same dimension configuration, the joint form connector 1 used as exterior one is obtained only by doubling side-face 2b of both the connectors 2 and 3, and 3b. Moreover, since the cross-section dimension of an appearance is similarly also formed (i.e., since both the connectors 2 and 3 are formed with the same cross-section dimension so that the top faces of both the connectors 2 and 3, tooth backs, and front faces may become respectively flat-tapped), they can connect both the connectors 2 and 3 without exterior sense of incongruity.

[0027] Drawing 13 and drawing 14 show the case where the longitudinal-section dimension of the appearance of a connector 2 and the cross-section dimension of the appearance of functional block 35 are formed in an abbreviation same dimension while arranging the functional block 35 equipped with a control function like overcurrent detector 35a in the side of the connector 2 (you may be the connector 3 for information.) for source power supplies. This overcurrent detector 35a is equipped with the components 60 for current detection, such as CT, the control circuit 61 realized with the microcomputer into which the detecting signal from this component 60 for current detection is inputted, and the switch 62 for changing off, when an overcurrent is detected and stopping the electric power supply to the inner machine (plug socket) 300 of a connector 2. The magnitude of functional block 35 is formed in the same magnitude as one unit of a connector 2 with this operation gestalt. In addition, the above-mentioned functional block 35 may be formed in the same magnitude as the anchoring unit of the inner machine (plug socket) of a connector 2. Moreover, functional block 35 is contained in the case 63 of a connector 2, and really formed case section 64, and the opening 65 of the case section 64 is covered with the eye hiding lid 66. In attaching functional block 35, functional block 35 and a connector 2 can be unified like drawing 14 (c) by demounting the eye hiding lid 66, containing functional block 35 to case circles, and fixing the eye hiding lid 66 on a screw 67. Therefore, while being able to use functional block 35 by making it one, comparing with the connector 2 for source power supplies, or the connector 3 for information, also after installing both the connectors 2 and 3, there is an advantage that the addition of addition functions, such as overcurrent detector 35a, can be performed easily.

[0028] In addition, the case section 64 of functional block 35 and the case 63 of a connector 2 are constituted from an another object, functional block 35 and a connector 2 are put in order, and you may make it install. Drawing 15 (a) shows the case where it has the covering 15 for electric-wire receipt for separating and containing the electric wire 12 for information connected with the electric wire 14 for power sources connected to the terminal area for power of the connector 2 for source power supplies at the terminal area 11 for modular one of the connector 3 for information in the exterior of both the connectors 2 and 3. With the operation gestalt shown in drawing 15 (a), covering 15a for electric-wire receipt consists of a piece 70 of a base, pieces 71 and 72 of a both-sides side in which the oblong openings 75 and 76 were formed, respectively, and a piece 73 of an end face, and the edge of the pieces 71 and 72 of a both-sides side is being fixed to the lateral surface of both the connectors 2 and 3 on the screw 74, respectively. The covering 15 for electric-wire receipt can be post-installed to both the connectors 2 and 3. The electric wire 14 for power sources or the electric wire 12 for information is pulled out outside from one opening 75, and when the electric wire 12 for information or the electric wire 14 for power sources is pulled out by the opposite direction in the electric wire 14 for power sources, both electric wires 12 and 35 are separated from the opening 76 of another side.

[0029] In addition, the separation wall 77 is established in the covering 15 for electric-wire receipt like drawing 15 (b), and you may make it the separation wall 77 separate the electric wire 14 for power sources, and the electric wire 12 for information. Moreover, in the separation wall 77 and the pieces 71 and 72 of a both-sides side, two or more concave openings 78 and 79 are

formed, respectively, and a wiring activity is attained from the upper part at them. Furthermore, a cash drawer is possible not only in an opposite direction but the same direction in both electric wires. Thus, there is an advantage that discernment of weak electric current and heavy current can be performed easily, by having separated electric wires 12 and 14 with the separation wall 77. Moreover, in order to ensure wiring, the tension stop member 80 is formed in the covering 15 for electric-wire receipt like drawing 16, you may make it fix this to the piece 70 of a base of the covering 15 for electric-wire receipt on a screw 81, and electric wires 12 and 14 can fully be protected by the tension stop member 80 in this case.

[0030] Drawing 17 shows the case where a wiring function and a connector slide function are given to the attachment pedestal 4 in addition to the fixed function to a desk 18. A wiring function establishes the hollow box 85 which carried out opening, respectively in a top face and a side face, and has fixed the lower limit of the hollow box 85 to piece of connection 4c of fixing metal 37 in the upper part of fixing metal 37 in which both the connectors 2 and 3 are attached. It connects free [a slide in the direction which shows connectors 2 and 3 by the arrow head H of drawing 17 R> 7 to the hollow box 85] by on the other hand making upper limit marginal 85a of the hollow box 85 stop the hook 86 which protruded on the base of connectors 2 and 3, respectively. Since both the connectors 2 and 3 can be easily moved on a desk 18 when a deer is carried out and both the connectors 2 and 3 are installed on a desk 18 with fixing metal 37, it is not necessary to demount the attachment pedestal 4 from a desk 18 one by one, and user-friendliness becomes good. Moreover, since it ****s on the electric wires 12 and 14 pulled out from connectors 2 and 3 in the box 85 while connectors 2 and 3 are connected free [a slide] to the hollow box 85, there is no fear of electric wires 12 and 14 tangling also at the time of a slide, and slide actuation can be performed smoothly at it. In addition, although the case where both a wiring function and a connector slide function were prepared was explained, of course, you may have one of functions.

[0031] As the case where an accessory case 90 is attached is shown in the connector 2 (the same is said of the connector 3 for information) for source power supplies and it is shown in drawing 18 (b), drawing 18 (a) shows the case where a nameplate 91 is attached, and compares an accessory case 90 and a nameplate 91 with a connector in this case, or can use them now for one. Moreover, since an accessory case 90 can be attached in the side of a connector 2 by post-installation, an accessory case 90 does not become obstructive at the time of the installation in early stages of a connector 2. Moreover, it becomes easy to do the activity of a switch of wiring etc. by writing the identifier of the owner of the personal computer connected to the corresponding connector 2 on a nameplate 91.

[0032] Drawing 19 shows the case where use the Taira form power cable 92 for the connector 2 (the same is said of or the connector 3 for information) for source power supplies, and a converter 96 is connected to it. The vessel 93 in a converter is connected to the edge of the Taira form power cable 92 connected to the terminal area for power sources of the connector 2 for source power supplies. By connecting the vessel 95 in a converter to the edge of the round power cable 94 connected to the plug 10, containing both vessels 93 and 95 in a converter between lower lid 96a of a converter 96, and top-cover 96b, and fixing on a screw 97 The Taira form power cable 92 can be transformed now into the common round power cable 94. Thus, as shown in drawing 20, while being able to let it pass easily into the slit part between desks 18 by using the Taira form power cable 92 as an electric-wire cable pulled out by the exterior of a connector 2, it becomes the thing excellent in anchoring nature and appearance nature. Moreover, a transducer 96 can perform conversion on a round electric-wire cable easily if needed. Drawing 21 shows the case where another connector 2 for source power supplies is later added to the connector 2 for source power supplies.

[0033] Drawing 22 shows an example in the case of connecting electrically and mechanically the 2nd connector B (for example, the connector 2 for source power supplies or the connector 3 for information) by which the plug is not connected to the 1st connector A (for example, connector 2 for source power supplies) to which the plug 10 is connected. The convex spigot section 100 which turns into an electrical connection from the center of a side face of the 2nd connector B protrudes. The stop pawl 101 of a pair protrudes on the both sides, and, on the other hand, the concave spigot-ed section 102 which turns into an electrical connection is formed in the center of a side face of the 1st connector A with plug 10. By the engagement hole 103 (opening or knock out section) with which the above-mentioned stop pawl 101 is engaged being formed in the both sides, inserting the spigot section 100 in the spigot-ed section 102, and making the stop pawl 101 engage with the engagement hole 103 Both the connectors 2 and 3A and B can be connected now electrically and mechanically. And also in any of connection of connector 2 comrades for source power supplies, connection of the connector 2 for source power supplies and the connector 3 for information, or connection of connector 3 comrades for information, electrical coupling of connectors and mechanical association can be performed now by one-touch. In addition, invasion of dust or dust can be prevented by it being attached to the above-mentioned spigot-ed section 102

stop pawl 105, closing in it, and equipping it with a plate 104, when not connecting the 2nd connector B.

[0034] Drawing 23 shows the case where the connector 2 for source power supplies and the connector 3 for information are covered with the covering 110 with opening 110a. This covering 110 is formed in the cross-section inverted-L-shaped which can cover the top face of a connector, and an order side, respectively. Even when the connection condition of connectors has shifted somewhat, while being able to amend that gap easily with this covering 110, an appearance becomes what was felt more refreshed with covering 110.

[0035] Drawing 24 shows the case where the rotation linkage 115 which connects upper horizontal piece 4a of fixing metal 37 in the vertical direction free [rotation] to piece of connection 4c is established. Instead by rotating fixing metal 37 in this rotation linkage, whenever [setting angle / of connectors 2 and 3] can insert a plug etc. now easily by this, and it becomes easy to operate a user. In addition, when there is a connector 2 (or 3) of two or more units, you may enable it to rotate only the connector of one unit. Moreover, you may make it attach all or some of inner machine 120 (or inner machine 121 for information) for source power supplies free [rotation] in a case 6 like drawing 25 R> 5 (b).

[0036] in addition, although said each operation gestalt explained the case where the joint form connector 1 was attached in a desk 18, it is not necessarily limited to this and comes out not to mention the ability to attach in other erection material other than a desk.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the decomposition perspective view showing an example of the operation gestalt of this invention.

[Drawing 2] The side elevation in the condition of (a) having attached the joint form connector in the perspective view of a joint form connector same as the above, and having attached (b) in erection material, such as a desk, and (c) are the side elevations of other operation gestalten.

[Drawing 3] It is the decomposition perspective view of the connector for information same as the above.

[Drawing 4] It is the explanatory view of the electric wire for power sources same as the above, and the electric wire for information.

[Drawing 5] It is the perspective view of the connector for information same as the above.

[Drawing 6] It is the explanatory view of other operation gestalten.

[Drawing 7] It is the rear view of the connector of drawing 6.

[Drawing 8] It is the perspective view of the fixing metal of drawing 6.

[Drawing 9] Furthermore, it is the explanatory view of other operation gestalten.

[Drawing 10] (a) and (b) are the explanatory views of the operation gestalt of further others.

[Drawing 11] (a) and (b) are the explanatory views of the operation gestalt of further others.

[Drawing 12] Furthermore, it is the explanatory view of other operation gestalten.

[Drawing 13] Furthermore, it is the circuit diagram showing other operation gestalten.

[Drawing 14] (a) - (c) is the explanatory view of the operation gestalt of further others.

[Drawing 15] (a) and (b) are the explanatory views of the operation gestalt of further others.

[Drawing 16] Furthermore, it is the explanatory view of other operation gestalten.

[Drawing 17] (a) and (b) are the explanatory views of the operation gestalt of further others.

[Drawing 18] (a) and (b) are the explanatory views of the operation gestalt of further others.

[Drawing 19] Furthermore, it is the explanatory view of other operation gestalten.

[Drawing 20] It is the explanatory view of the example of drawing 19.

[Drawing 21] It is the explanatory view of the wiring condition of drawing 19.

[Drawing 22] Furthermore, it is the explanatory view of other operation gestalten.

[Drawing 23] Furthermore, it is the explanatory view of other operation gestalten.

[Drawing 24] Furthermore, it is the explanatory view of other operation gestalten.

[Drawing 25] (a) and (b) are the explanatory views of the operation gestalt of further others.

[Drawing 26] It is the explanatory view of the conventional example.

[Drawing 27] It is the explanatory view of other conventional examples.

[Description of Notations]

- 1 Joint Form Connector
- 2 Connector for Source Power Supplies
- 3 Connector for Information
- 4 Attachment Pedestal
- 5 Plug Plug Blade Insertion Opening
- 6 Modular Plug Insertion Opening
- 7 Coupling Means
- 8 Modular Jack
- 9 Case for Modular One
- 10 Plug
- 11 Terminal Area for Modular One
- 12 Electric Wire for Information
- 13 Connector for Communication Link
- 14 Electric Wire for Power Sources
- 15 Covering for Electric-Wire Receipt
- 35 Functional Block
- 35a Overcurrent detector

[Translation done.]

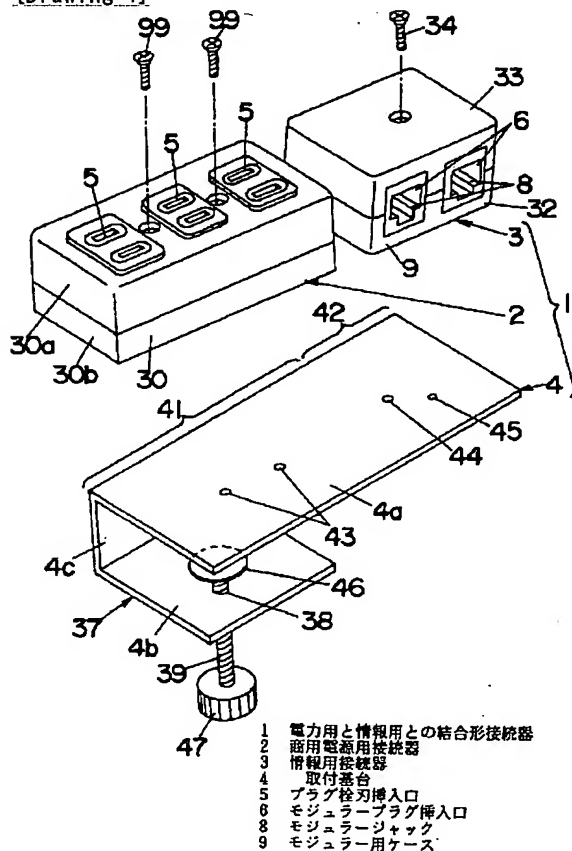
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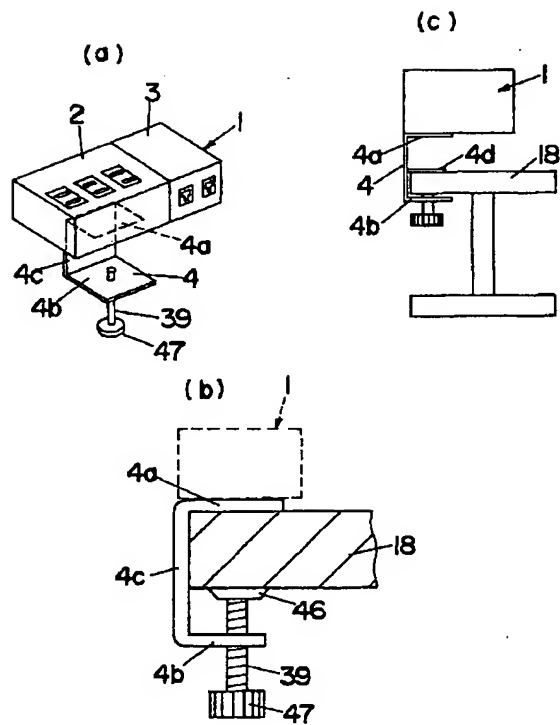
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DRAWINGS

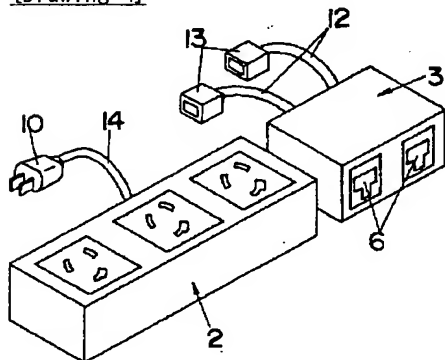
[Drawing 1]



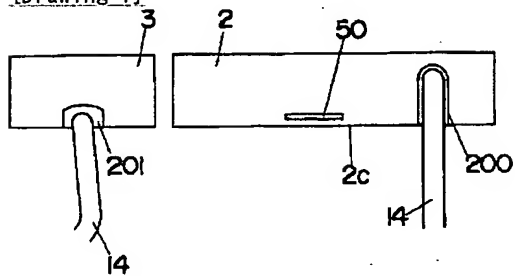
[Drawing 2]



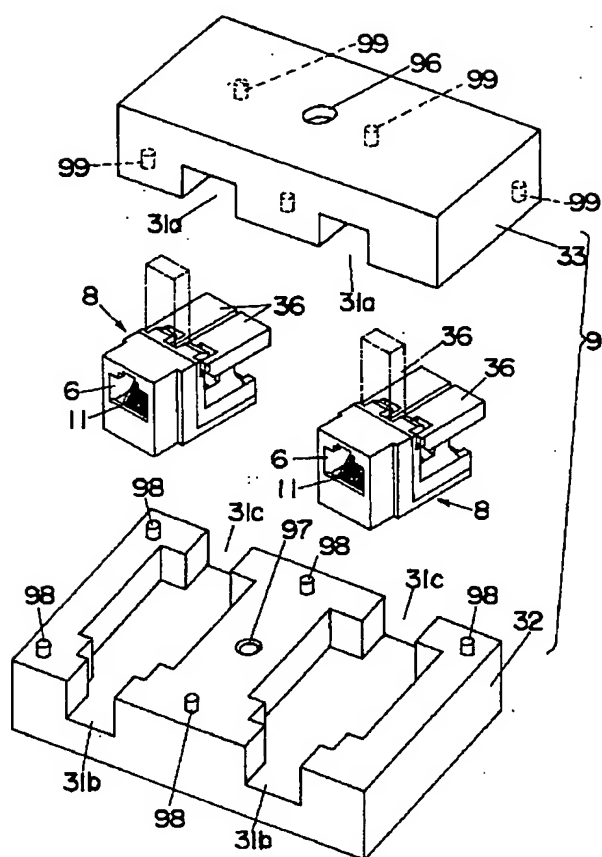
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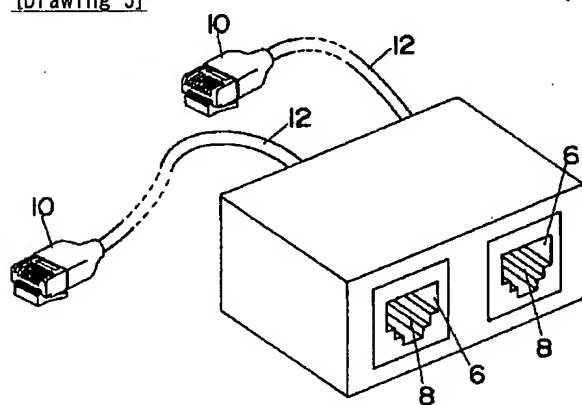
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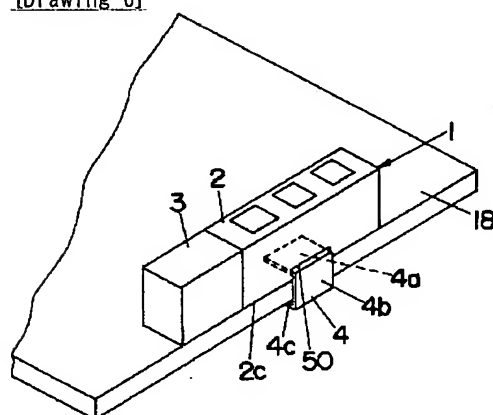
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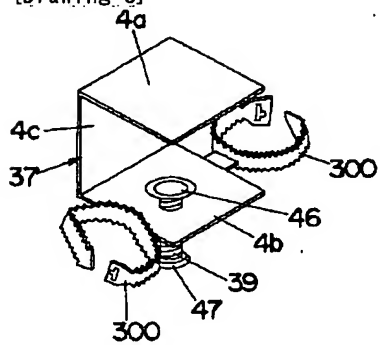
[Drawing 5]



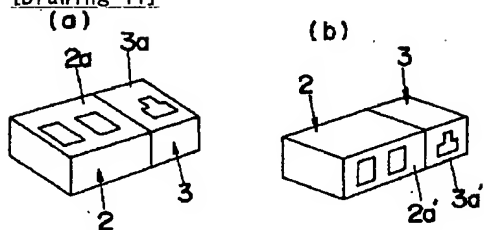
[Drawing 6]



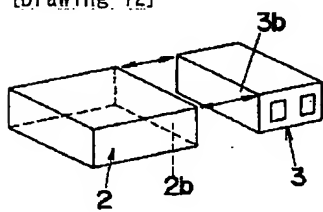
[Drawing 8]



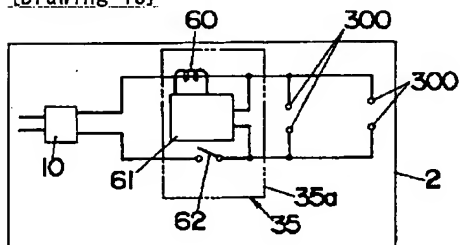
[Drawing 11]



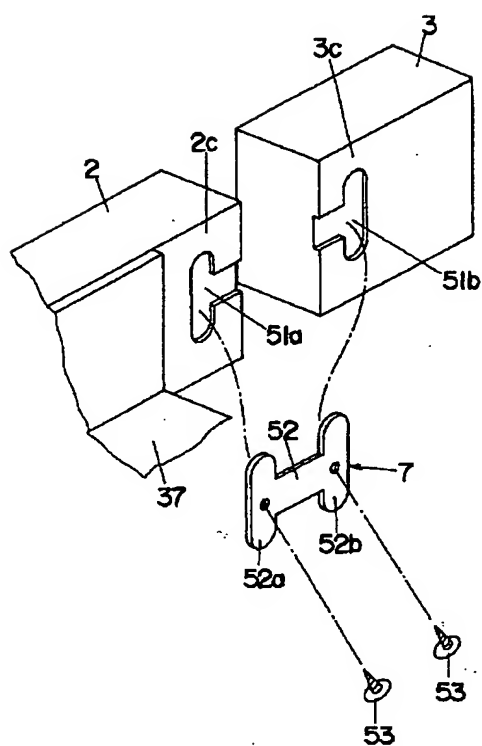
[Drawing 12]



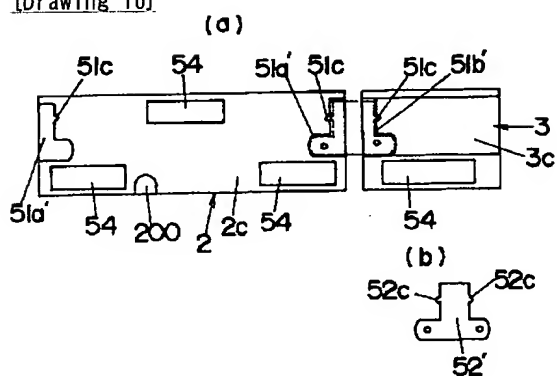
[Drawing 13]



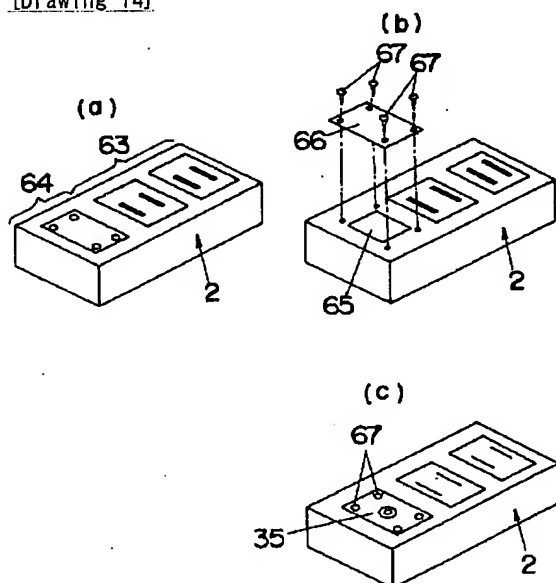
[Drawing 9]



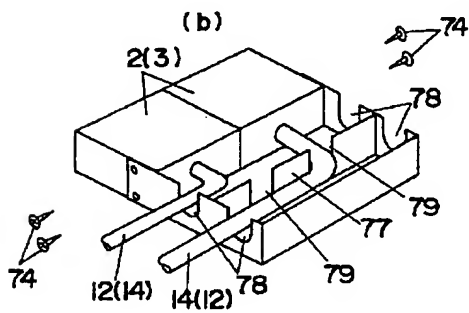
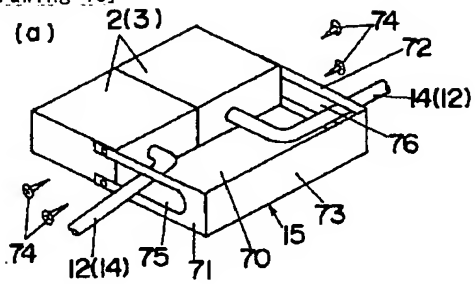
[Drawing 10]



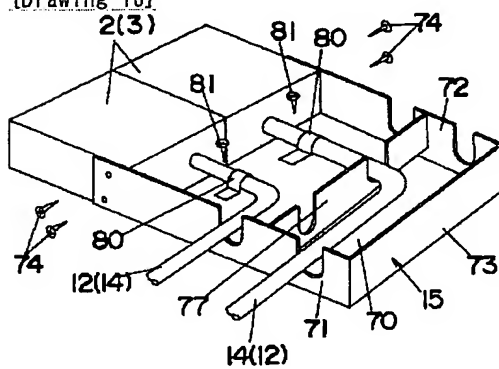
[Drawing 14]



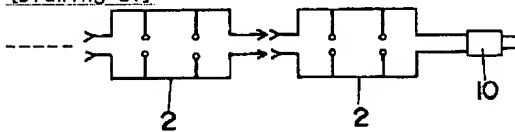
[Drawing 15]



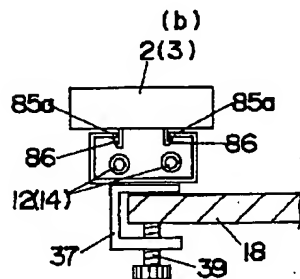
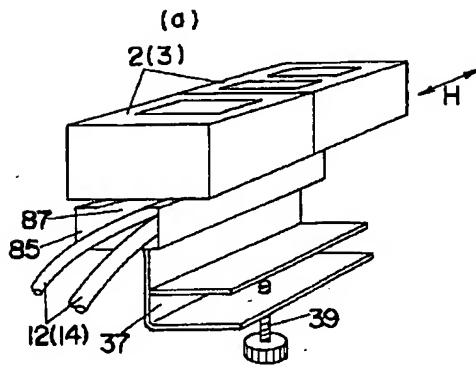
[Drawing 16]



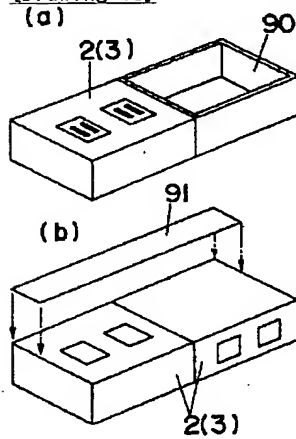
[Drawing 21]



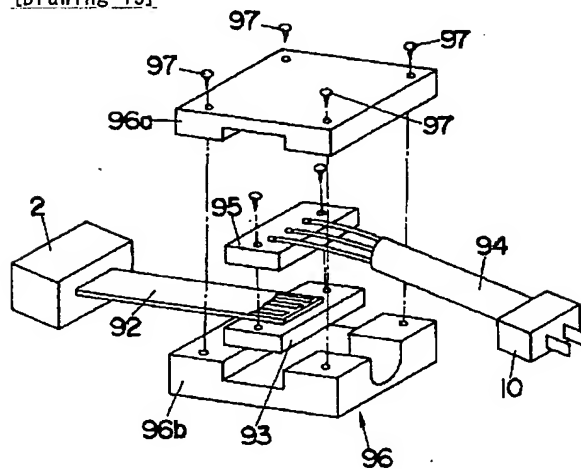
[Drawing 17]



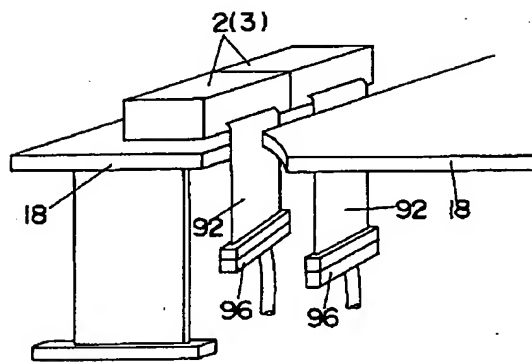
[Drawing 18]



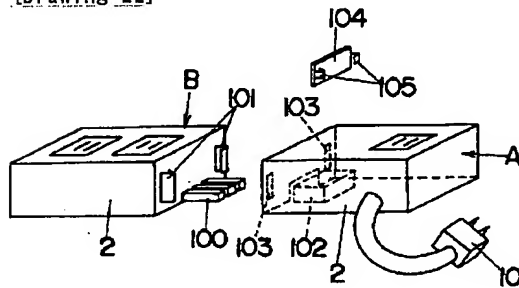
[Drawing 19]



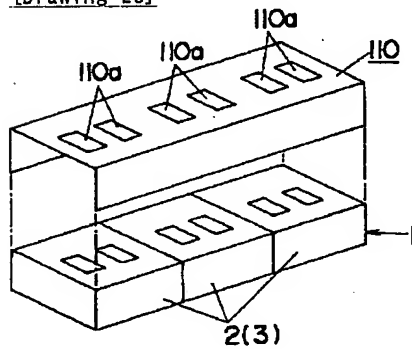
[Drawing 20]



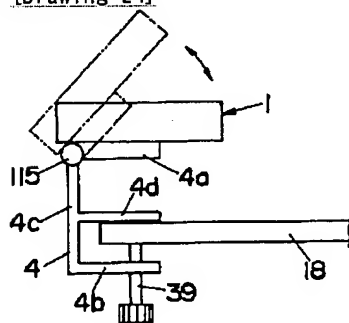
[Drawing 22]



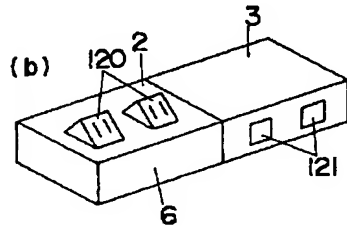
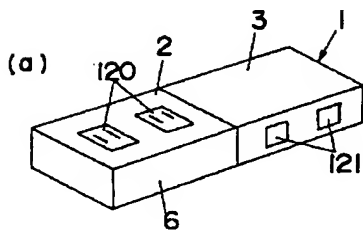
[Drawing 23]



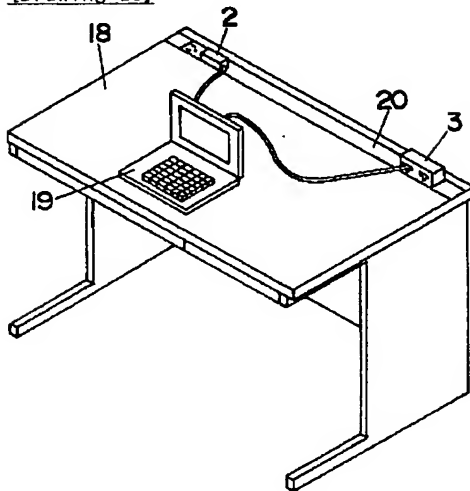
[Drawing 24]



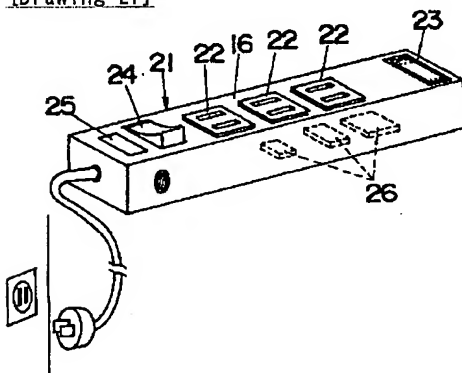
[Drawing 25]



[Drawing 26]



[Drawing 27]



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